UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

DONALD AGEE, JR. et al.,

                    Plaintiffs,

    v.

JOCELYN BENSON, et al.,

                    Defendants.

Case No. 1:22-CV-00272-PLM-RMK-JTN

JOINT APPENDIX: Volume II of V (JA00277 to JA000437)

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UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

DONALD AGEE, JR., an individual, *et al.,*	
Plaintiffs,	Case No. 1:22-cv-00272
v.	**Three-Judge Panel Appointed Pursuant to 28 U.S.C. § 2284(a)**
JOCELYN BENSON, in her official capacity as the Secretary of State of Michigan, *et al.*;	
Defendants.	

PLAINTIFFS' EXPERT REPORT DISCLOSURE PURSUANT TO FED. R. CIV. P. 26(a)(2)(B)

TO: ALL PARTIES NAMED AND TO THEIR ATTORNEYS OF RECORD

Plaintiffs, by and through their counsel, hereby submit the expert report of Dr. Brad Lockerbie in accordance with Federal Rule of Civil Procedure 26(a)(2)(B).

ClarkHill\L1503\442579\270086940.v1-1/17/23

Respectfully submitted,

Dated: January 18, 2023

/s/ John J. Bursch
John J. Bursch (P57679)
BURSCH LAW PLLC
Attorney for Plaintiffs
9339 Cherry Valley Ave SE, #78
Caledonia, Michigan 49316
(616) 450-4235
jbursch@burschlaw.com

Michael J. Pattwell (P72419)
James J. Fleming (P84490)
Amia A. Banks (P84182)
CLARK HILL PLC
Attorneys for Plaintiffs
215 South Washington Square, Suite 200
Lansing, MI 48933
(517) 318-3100
mpattwell@clarkhill.com
jfleming@clarkhill.com
abanks@clarkhill.com

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Final Report

United States District Court of Western District Michigan Southern Division

Agee et al. v. Benson et al.

Case No. 1:22-cv-00272

Expert Report of Brad Lockerbie, Ph.D.

Professor of Political Science

East Carolina University

Greenville, NC

January 15, 2023

I.   Purpose of Engagement

1. I have been asked by plaintiff's counsel to review and offer my opinions on material related to Case No. 1:22-cv-00272. With respect to the two (2) claims brought under Section 2 of the federal Voting Rights Act, I have been asked to analyze the factors discussed in the Senate Report that accompanied the 1982 Voting Rights Act Amendments, S. Rep. No. 97-417, at 28-29 (1982) and their applicability to this case. These factors are generally known as the "Senate Factors." The Senate Factors are part of the analysis relative to the totality of the circumstances as part of a Section 2 Voting Rights claim.

2. My focus is on Senate Factors. The material I review includes the report of Bruce L. Adelson, MICRC Voting Rights Act Legal Counsel, entitled "The History of Discrimination in the State of Michigan and its Influence on Voting," (hereafter Adelson Report) the report of Dr. Lisa Handley, entitled "Report to the Michigan Independent Citizens Redistricting Commission," (hereafter Handley Report) and the transcripts of the public meetings of the Michigan Independent Citizens Redistricting Commission and items referenced within these transcripts.

3. In my review, I have relied on the documents referenced above, the hyperlinks in these documents, and the documents I reference within my report. I also reviewed the Institute for Public Policy and Social Research's report, "Redistricting's effect on Black Representation in Michigan," by Angelina Benli and Lexie Milukhin from December 9, 2022.

4. After a review of these materials, based on my training as a political scientist and my experience as a political scientist (see Appendix for my CV), I conclude the following.

    a. Michigan has a long history of official discrimination. The effect of that discrimination is still being felt today. This discrimination is both political and non-political.

    b. There is a high degree of racial polarization in voting in Michigan. There is high racial polarization in Michigan's Wayne, Oakland, Genesee, and Saginaw counties.

    c. Minority groups are considerably less educated and have fewer economic resources than whites in Michigan.

II.   Qualifications

5. I am professor of political science at East Carolina University in Greenville, North Carolina. I have taught at East Carolina University since 2007. From 1988 to 2007, I was an assistant and associate professor of political science at the University of Georgia. I have served as a consultant for the Advanced Placement Program, an open-response question grader, and a table leader with supervisory responsibility for other graders. Also, I have served as a presenter at the Robert Taft seminars on American government. I have reviewed several American Government and statistics books for various university and commercial presses. I have served as a reviewer for both political science and economics grant applications for the National Science Foundation. I have also been a recipient of two grants from the National Science Foundation.

6. In 1988, I received my doctorate in political science from the University of Iowa, specializing in American electoral behavior. I received a Bachelor of Arts from the University of Georgia in 1984, majoring in political science.

7. I have published over 30 peer-reviewed articles on elections and public opinion in political science journals and interdisciplinary journals, including the *American Journal of Political Research, PS: Political Science and Politics,* and *Social Science Quarterly*. I authored *Do Voters Look to the Future? Economics and Elections* published by SUNY Press. I have published several book chapters, including two with Cambridge University Press. Several chapters look at race, among other variables related to voting behavior. My CV is attached. My publications within the last ten years are:

    a. "Economic Pessimism and Political Punishment in 2020," *PS: Political Science and Politics*, 54:67-69.

    b. "Maybe it is More than a Joke: Satire, Mobilization, and Political Participation," (with Jody C. Baumgartner), 2018, *Social Science Quarterly,* 99:1060-1074.

    c. "The Economic Pessimism Model," 2017, *PS: Political Science and Politics*. 50:335.

    d. "Economic Pessimism and Political Punishment," 2016, *PS: Political Science and Politics*. 49:673-676.

    e. "Race and Religion: Voting Behavior and Political Attitudes," 2013, *Social Science Quarterly*. 94:1145-1158.

f. "Economic Expectations and Election Outcomes," 2013, *PS: Political Science and Politics*. 46:42.

8. I served as a consultant who was deposed in *Nielsen v. DeSantis* (Case No. 4:20-cv-00236 N.D. FL.), *Donald J. Trump for President, Inc., et al., v. Kathy Boockvar et al.* (W.D. Pa.), *North Carolina Alliance for Retired Persons v. North Carolina State Board of Elections* (Wake Cty. Sup. Ct), and the state of Florida with regarding SB 90. I served as a testifying expert in The Arkansas NAACP et al vs. The Arkansas Board of Apportionment et al (Case No.: 4:21-cv-01239-LPR). I also served as a testifying witness in Faith Rivera et al. vs. Scott Schwab and Michael Abbot in the District Court of Wyandotte County (Case No.: 2022-CV-000089). I have served as either as witness at a trial and/or in a deposition in these cases in the last four years.

9. I am being paid $600/hour for my time in this matter. My pay is not dependent on the content, the interpretation of the analysis performed, or the outcome of this proceeding.

III. **History of Discrimination in Michigan and the four counties**

10. Bruce L. Adelson, the MICRC Voting Rights Legal Counsel, has outlined many of the problems with the work of the Michigan Independent Citizens Redistricting Commission. As much of his report is contrary to the apparent interests of the Commission, I accept them as given. One should note that the Commission voted not to release the memo or the recording of the meeting where it was discussed.[1]

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[1] MICRC_009641.pdf, December 2, 2021, pages 71-74.

11. The testimony before the Michigan Independent Citizens Redistricting Commission over the several months of hearings also supports the argument that Michigan has a history of ongoing discrimination.

12. Adelson notes there were slaves in Michigan territory before the adoption of the US Constitution.

13. Slavery continued in Michigan until it was officially abolished upon statehood.

14. The initial state constitution prevented blacks from serving on juries and voting. Although the Michigan legislature banned *de jure* segregation after the Civil War, Detroit still maintained racially segregated schools.

15. During the 20th century, Detroit was a stronghold of the Klan. A race riot in 1943 on Belle Isle resulted in 34 deaths (25 blacks and nine whites), almost 700 people injured, and approximately 2 million dollars of property damage.

16. I assume these dollars are unadjusted for inflation. Using the US Inflation calculator, in 2022 dollars, this would be 34 million dollars of property damage.[2]

17. The "12th Street Riot" of 1967 was a confrontation between Black residents of Detroit and the police force. President Lyndon Johnson deployed federal troops in response. This riot resulted in 43 deaths, 467 injured, and over 2,000 buildings destroyed.

18. More recent manifestations of the concern over racial discrimination can be seen in the transcripts of the MICRC meetings.

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[2] usinflationcalculator.com. 2022 is the latest year for which they provide the calculations. (accessed January 10, 2023)

19. Alicia Williams, the Jackson County NAACP president, notes she stands for an underrepresented community where civil rights are taken for granted.[3]

20. The president of a block club on Detroit's west side states that black people face political barriers, and these barriers continue today.[4]

21. Maya Jones, a resident of Battle Community, states that the committee needs to redress the inequities that create barriers to opportunities. Opportunities hindered by the historical legacy, such as patterns of racism.[5]

22. Sarah Howard, attorney for the Fair Maps Project of the AFL-CIO, expressed concern that the Commission was proposing maps that lead to a retrogression regarding minority representation in the legislature.[6]

23. Yvette McElroy, a lifelong resident of Detroit, stated that the maps which provide for 0 Senate districts with a minority population of 50% or more mean that communities of interest will not have the opportunity to elect candidates that look like them or share similar interests.[7]

24. The Reverend Steve Bland Junior, the Senior Pastor of Temple Baptist Church, similarly argued that districts needed 50% African American so that his voting block would have fair representation and a voice on the issues.[8]

25. Natalie, a native Detroiter, states that the maps submitted by the MICRC do not represent the best interests of African Americans. These maps, according to her, will make it difficult or impossible for African American candidates to

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[3] MICRC_002813.pdf, May 11, 2021, page 48.
[4] MICRC_003361.pdf, June 15, 2021, page 24.
[5] MICRC_003403.pdf, June 17, 2021, page 21.
[6] MICRC_005635.pdf, September 9, 2021, page 5.
[7] MICRC_007706.pdf, October 6, 2021, page 16.
[8] MICRC_007706.pdf, October 6, 2021, page 18.

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win elections. She also remarks on the work of Michigan State's Institute for Public Policy noting the breakup of geographically compact Black majorities so that there are no majority-black districts.[9]

26. Ray, a 32-year member of the UAW, states that the problems with the maps provided are at their worst in Detroit. Blacks are split up into multiple districts their voting influence is greatly diminished.[10]

27. Yvette Anderson states that the Commission needs to have maps that are 51% Black so that Black people can elect like themselves. Moreover, she argues that the current maps represent a return to the Jim Crow politics of the past.[11]

28. Danielle Steven, retired public servant and member of the Detroit NAACP, states that the maps do not represent the best interests of black voters. Like an earlier commentator, she notes the Michigan State Institute for Public Policy highlighting the breaking apart of the geographically compact majority in Detroit.[12]

29. Ladie, a resident of Detroit and a community advocate, states that the Commission's path will lead to the disenfranchisement of communities of color.[13]

30. Joseph Person, Chair of the Oakland County Democratic Black Caucus, states that the maps proposed are a high-tech lynching.[14]

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[9] MICRC_008200.pdf, October 20, 2021, page 9.
[10] MICRC_008200.pdf, October 20, 2021, page 13.
[11] MICRC_008200.pdf, October 20, 2021, page 16.
[12] MICRC_008200.pdf, October 20, 2021, page 29.
[13] MICRC_008200.pdf, October 20, 2021, page 32.
[14] MICRC_008200.pdf, October 20, 2021, page 39.

31. Jonathan, a Wayne County Commissioner, argues that with the maps submitted, you would have the lowest number of black elected officials in the state's history.[15]

32. The president of the Troy branch of the NAACP states these maps do provide for voting rights. They reduce the number of likely black elected officials.[16]

33. John Johnson, identified as the Executive Director of the Michigan Department of Civil Rights stated: "Simply put, the department believes the maps presented by this Commission violate Federal civil rights law. This Commission has historic opportunity and profound responsibility to redraw Michigan's boundaries so we preserve as the Voting Rights Act says you must in deciding who will represent their interest in both Lansing and Washington D.C. The maps this body approved fail that test. They dilute majority minority districts and strip the ability for minority voters to elect legislatures reflect their community and effect any meaningful opportunity to impact public policy and law making."[17]

34. Marietta, a resident of Detroit, states that the maps crack down on Detroit and make it impossible for African Americans to elect candidates that look like them.[18]

35. Jeffrey Robinson, a member of the executive committee of the Detroit chapter of the NAACP, argues that black voters in Detroit have been denied their full

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[15] MICRC_008200.pdf, October 20, 2021, page 54.
[16] MICRC_008200.pdf, October 20, 2021, page 62.
[17] MICRC_008200.pdf, October 20, 2021, page 65.
[18] MICRC_008200.pdf, October 20, 2021, page 69.

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voice in the state and national government He also urges the rejection of maps that diminish the likely number of elected black representatives.[19]

36. The State Representative for District 1 notes the racism he endured when out canvassing. He argued that the creation of minority districts was needed to comply with the Voting Rights Act.[20]

37. Jackie, a resident of Detroit, states that the maps suppress and nullify the black vote. She further notes that there are no black districts in an overwhelmingly black city. She compares these maps to the Post-Reconstruction Jim Crow laws in the South.[21]

38. Joan Long, a League of Women Voters member, urged the Commission to rectify what she refers to as the violations of the Voting Rights Act.[22]

39. Sarah Holmes urged the Commission to make racial gerrymandering a thing of the past. She notes that only three majority-white districts are represented by an African American.[23]

40. Jerome Reed a legislative liaison with the Michigan Department of Civil Rights, is quoted as saying: "The Commission has a historic opportunity and a profound responsibility to redraw Michigan's electoral boundaries so that we preserve, as the Voting Rights Act says you must, the ability of the minority to have a voice in their Government and deciding who will represent their interests from the local school board to the halls of Congress. The maps this

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[19] MICRC_008200.pdf, October 20, 2021, page 143-144.
[20] MICRC_008345.pdf, October 21, 2021, pages 18-19.
[21] MICRC_008345.pdf, October 21, 2021, page 73.
[22] MICRC_008429.pdf, October 22, 2021, page 11.
[23] MICRC_008550.pdf, October 25, 2021, page 67.

body approved on October 11 failed that test. They dilute minority majority

districts and strip the ability for minority voters to elect legislative

representatives who reflect their community and affect any meaningful

opportunity to impact public policy and law making."[24]

41. Shaun Lee references the Michigan Executive Director John Johnson saying

the proposed maps violate the Voting Rights Act.[25]

42. Amanda Oster references the same point about the Department of Civil

Rights.[26]

43. Mark Payne, DFA coordinator for the Michigan League of Conservation

Voters, references the Michigan Department of Civil Rights, stating that the

maps dilute and strip the ability of minority voters to influence public

policy.[27]

44. Laida, a resident of Detroit, stated the Department of Civil Rights had

informed the commission on December 9 that the proposed maps violated the

Voting Rights Act.[28]

45. The Reverend Wendell Anthony, president of the NAACP, stated that the

proposed maps violate the Voting Rights Act.[29]

46. In section IV, labeled **Voting in Michigan: VRA Section 5 Coverage and

Language Barriers**, Adelson notes many instances of findings that

Michigan's voting process was discriminatory.

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[24] MICRC_008625.pdf, October 26, 2021, pages 112-113.
[25] MICRC_009372.pdf, November 4, 2021, page 5.
[26] MICRC_009372.pdf, November 4, 2021, page 17.
[27] MICRC_009575.pdf, November 18, 2021, page 22.
[28] MICRC_009723.pdf, December 16, 2021, page 30.
[29] MICRC_009723.pdf, December 16, 2021, page 65.

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47. In 1976, the US Attorney General and Census Director added Michigan to the list of states covered by Section 5 of the Voting Rights Act.[30]

48. In 2007, the Department of Justice used Section 5 to stop the state from closing a branch of the Secretary of State's office.[31]

49. The Section 5 coverage of the Voting Rights Act applied to Buena Vista Township in Saginaw County because the county did not provide election materials in Spanish, as required.[32]

50. The Institute for Public Policy and Social Research at Michigan State University reported on the proposed maps, as referenced by many participants in the Redistricting public hearings.[33]

51. The authors of the report note that the Michigan Senate map splits Detroit into three districts with less than 45% African American population.[34]

52. The authors also note that the Commission may improve its maps' legal standing by describing its approach to selecting communities of interest and compliance with the Voting Rights Act.[35]

53. The *Bridge Michigan*, on August 3, 2022, published an article titled, "Losses by Black candidates revive fears about Michigan redistricting."[36]

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[30] Adelson, page 25.
[31] Adelson, page 26.
[32] Adelson, page 26.
[33] https://ippsr.msu.edu/news/ippsr-analysis-evaluates-proposed-redistricting-maps (accessed January 14, 2023).
[34] https://ippsr.msu.edu/news/ippsr-analysis-evaluates-proposed-redistricting-maps (accessed January 14, 2023).
[35] https://ippsr.msu.edu/news/ippsr-analysis-evaluates-proposed-redistricting-maps (accessed January 14, 2023).
[36] https://www.bridgemi.com/michigan-government/losses-black-candidates-revive-fears-about-michigan-redistricting (accessed January 14, 2023).

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54. The report notes that in three metro Detroit seats, black candidates lost open primaries. According to the report, this reignited fears that the new districts would decrease black representation.

55. Democratic consultant Adrian Hemond is quoted in the report as saying, "it's not been a great day for Black representation."

56. Similarly, Detroit political consultant Adolph Mongo is quoted as saying, "Redistricting has really screwed things up." "Those folks that are going to represent us don't look like us."

57. The *Bridge Michigan* Report quotes Keith Williams, chair of the Black Caucus of the Michigan Democratic party, as saying, "The redistricting committee won and Black folks lost." "Psychologically, what it's saying is that we don't control our destiny anymore."[37]

IV. Economic Disparities

58. Adelson notes the high levels of segregation in Detroit regarding housing patterns. Realtors did not show houses in predominantly white neighborhoods to blacks.[38]

59. Racially restrictive covenants, though legally unenforceable, remain in their deeds.[39]

60. Adelson notes that unlawful foreclosures have arisen as a successor to relining.[40]

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[37] https://www.bridgemi.com/michigan-government/losses-black-candidates-revive-fears-about-michigan-redistricting (accessed January 11, 2022)
[38] Adelson, page 8.
[39] Adelson, page 14.
[40] Adelson, page 15.

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61. Adelson argues that the effects of redlining remain today. This redlining has led to disparities in wealth between whites and blacks.[41]

62. According to Adelson, communities of color generally have longer wait times at the polls.[42]

63. Adelson notes socio-economic disparities and voting. Blacks are much less likely to have a bachelor's degree than whites. Whites have 172% more bachelor's degrees than do blacks.[43]

64. It is as close to a universally accepted finding in the study of American politics as we can note that education is positively related to voter turnout. The classic in the field is Wolfinger and Rosenstone's *Who Votes?* The findings of this work have been corroborated by years of work by other scholars. [44]

V.   Racial Polarization

65. The Handley Report covers much of the ground of racial polarization in Michigan and the geographic areas covered in this matter.

66. She states that the plaintiffs must satisfy three preconditions to qualify for relief. First, the minority group must be sufficiently large and geographically compact to form a majority in a single-member district. Second, the minority group must be politically cohesive. Last, whites must vote as bloc to usually defeat minority-preferred candidates.

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[41] Adelson, page 17.
[42] Adelson, page 17.
[43] Adelson, page 23. Calculations my own
[44] Wolfinger, Raymond E. and Steven J. Rosenstone. 1980. *Who Votes?* New Haven: Yale University Press.

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67. Adelson notes that the higher you go in terms of minority population, the more likely you are to elect a candidate of choice.[45] He also recommends a cushion above the estimated minimum percentage of the population for minorities to elect candidates of choice because these are just estimates.[46]

68. Handley uses homogenous precinct analysis, ecological regression, and ecological inference to address the issue of racial polarization. She notes the first two are more common and have been accepted by the US Supreme Court. The third, EI, is post-Gingles, but according to Handley, it has been accepted in numerous court proceedings.

69. Handley examines several elections with African American candidates in Michigan. Four were with an African American candidate either running alone or at the top of the ticket (Barack Obama's 2012 presidential election, Godfrey Dillard 2014 Secretary of State of Michigan, and John James for US Senate in 2018 and 2020). James is identified as not being the candidate of choice of black voters.

70. Of the two races with African Americans at the top of the ticket, whites and blacks voted for different candidates. In one of the two times, the black candidate, Barak Obama, the incumbent president won. Ruth Johnson won reelection to the position of Secretary of State over Godfrey Dillard.[47]

71. Handley also counts the 2020 presidential race in which Kamala Harris ran for Vice President and the 2018 race in which Garlin Gilchrist ran for Lieutenant

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[45] MICRC_004797.pdf, August 8, 2021, page 76.
[46] MICRC_007421.pdf, October 4, 2021, page 65.
[47] Election returns provided by Handley on page 35.

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Governor. In both instances, the bottom of the ticket runs in tandem with the top of the ticket.

72. In an article titled "Why VPs Matter Less than You Think" in Politico, political scientists Kyle C. Kopko and Christopher J. Devine, argue that in most cases voters vote for the top of the ticket. For a vice-presidential candidate to matter they must be either tremendously popular or tremendously unpopular. Neither is usually the case. Consequently, there is little reason to believe that the bottom half of the ticket is particularly determinative in these cases.[48]

73. Handley finds most of the races she examines to be racially polarized.

74. Statewide, Handley notes that all but the 2012 US Senate race won by Stabenow was polarized. Even here, two of her four techniques show that to be polarized as well. The first form of ecological inference and the ecological regression show black voters overwhelmingly voted for Stabenow and a majority of white voters cast a ballot for the Republican candidate, Peter Hoekstra. The second form of ecological inference shows Stabenow doing worse than the Republican candidate, but neither received a majority of the white vote. She did, however, do better than the Republican candidate, Peter Hoekstra, among white voters when looking at the Homogenous precinct analysis. This election might be complicated by the relatively high showing (3.2-3.7%) of "others" among whites.

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[48] Kopko, Kyle C. and Christopher J. Devine. April 11, 2016. "Why VPs Matter Less than You Think," *Politico.* https://www.politico.com/magazine/story/2016//04/election-2016-vice-president-selection-matters-less-than-you-think-213805/ (Accessed January 10, 2023).

75. Stabenow got no less than 96.8% of the African American vote, regardless of the technique employed.

76. Looking at the elections employed by Handley, we can see that when there was racial polarization, as identified by her, four of the twelve elections were won by the candidate favored by whites.[49]

77. To examine racial polarization and calculate what percentage of African Americans is necessary for African Americans to have the opportunity to elect a candidate of choice, she makes use of these races.

78. Winning office in American politics usually requires winning two elections: the primary election and the general election.

79. Handley opts to not use the one statewide primary election, the 2018 Democratic gubernatorial primary because 50% of the vote was not required to win the election.[50]

80. Susan Smith, vice president of the League of Women Voters of Michigan, questions the work of Handley for not using primary voting when performing racial bloc voting analysis.[51]

81. Mark Payne, DFA Coordinator for the Michigan League of Conservation Voters, also urged using primary elections to analyze racial polarization.[52]

82. Suppose the candidate choice of the minority community loses in the primary. In that case, the candidate that receives the votes of minority voters in the

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[49] Handley, pages 35-36.
[50] Handley Report, page 24.
[51] MICRC_008746.pdf, October 27, 2021, page 6.
[52] MICRC_009575.pdf, November 18, 2021, page 22

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general election is, at best, their second choice, and perhaps the least bad option.

83. The gubernatorial general election does not require 50%, but it is used by Handley.[53]

84. The senatorial general election does not require 50%, but it is used by Handley.[54]

85. The presidential election does not require 50%, but it is used by Handley.[55]

86. In fact, the statewide races in Michigan presented by Handley do not require 50% of the vote.

87. Looking at Handley's Appendix A, the 2016 presidential election, the 2018 Attorney General election, and the 2020 US Senate election all had winners with less than 50% of the vote.[56]

88. Handley also states that we should not use the 2018 Democratic gubernatorial primary, as there is no consistent candidate of choice for African Americans in the four counties she examines.[57]

89. In three of the four (Genesee, Saginaw, Oakland, and Wayne) counties, Thanedar was the plurality choice among black voters. Only in Oakland County was Thanedar not the candidate of choice for blacks. Even here, one of her four techniques showed him the candidate of choice for blacks.

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[53] http://archive.fairvote.org/?page=2293 (accessed January 10, 2023)
[54] http://archive.fairvote.org/?page=2293 (accessed January 10, 2023)
[55] http://archive.fairvote.org/?page=2293 (accessed January 10, 2023)
[56] Handley, pages 35-36.
[57] Handley, page 24.

90. Moreover, we should note that in the three-way race in these four counties, never do less than 55% favor a candidate other than Whitmer. Leaving out the homogenous precinct analysis, the number goes up to 60% of blacks favoring a candidate other than Whitmer.

91. Susan Smith, identified as the vice president of the League of Women Voters, expressed concern about the lack of primary elections in Handley's analysis of racial bloc voting.[58]

VI.   Conclusion

92. The reports and documents lead me to the following overarching conclusions:

    a. The Adelson report and the testimony before the Michigan Independent Citizens Redistricting Commission demonstrate a history of racial discrimination in Michigan. This history and its legacy continue to this day.

    b. There are striking economic and educational disparities today in Michigan and Detroit. These disparities have been found in the social science literature to be related to diminished political participation.

    c. There is the possibility of drawing legislative districts in Michigan with African Americans constituting a majority.

    d. Racial polarization in Michigan's voting continues through the most recent elections. Moreover, in many instances, the candidate of choice of the African American community loses the election to the candidate preferred by whites.

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[58] MICRC_008746.pdf page 6.

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Brad Lockerbie
Professor of Political Science
East Carolina University

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BRAD LOCKERBIE

Curriculum Vitae

Office: Department of Political Science
              East Carolina University
              Greenville, NC 27858
              252-328-1066 (Office)
              252-328-4134 (Fax)
              252-864-8622 (Personal)

EDUCATION

Ph.D., University of Iowa, 1988
A.B., University of Georgia, 1984

ACADEMIC APPOINTMENTS

Professor, East Carolina University, 2014 -
Professor and Chair, East Carolina University, 2007-2014
Associate Professor, University of Georgia, 1994-2007
Assistant Professor, University of Georgia, 1988-1994
Instructor, University of Georgia, Spring 1988
Instructor, University of Iowa, Fall 1987
Teaching Assistant, University of Iowa, 1985-1987

SCHOLASTIC AWARDS AND HONORS

Phi Kappa Phi, 2010-
Omicron Delta Kappa, 2010-
Exemplary Service Medal, Thomas Harriot College of Arts and Sciences, East Carolina
        University, 2009
Dean Thomas P. Lauth Award for Teaching Excellence, 2007
Delta Upsilon Chapter of Gamma Phi Beta Recognition of Contributions to Academic
        Excellence at the University of Georgia, 1999
Delta Upsilon Chapter of Gamma Phi Beta Recognition of Contributions of Academic
        Excellence at the University of Georgia, 1998
Selected to participate in the Institute for Behavioral Research Faculty Mentoring program,
        1990
Departmental nominee for Conference of Southern Graduate Schools Annual Achievement
        Award for New Scholars, 1989

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BOOK

Do Voters Look to the Future? Economics and Elections. 2008. SUNY Press: Albany, NY.

ARTICLES

"Economic Pessimism and Political Punishment in 2020," *PS: Political Science and Politics*, 54:67-69.

"Maybe it is More than a Joke: Satire, Mobilization, and Political Participation," (with Jody C. Baumgartner), 2018, *Social Science Quarterly,* 99:1060-1074.

"The Economic Pessimism Model," 2017, *PS: Political Science and Politics*. 50:335.

"Economic Pessimism and Political Punishment," 2016, *PS: Political Science and Politics*. 49:673-676.

"Race and Religion: Voting Behavior and Political Attitudes," 2013, *Social Science Quarterly.* 94:1145-1158.

"Economic Expectations and Election Outcomes," 2013, *PS: Political Science and Politics*. 46:42.

"Economic Expectations and Election Outcomes: The Presidency and the House in 2012," 2012, *PS: Political Science and Politics*. 45:644-647.

"A Retrospective on the Prospective Model: Economic Expectations and Election Outcomes," 2009, *PS: Political Science and Politics*. 42:22-23.

"Election Forecasting: The Future of the Presidency and the House," 2008, *PS: Political Science and Politics*. 41:71.

"Framing Effects on Public Opinion During Prewar and Major Combat Phases of the U.S. Wars with Iraq," (with Stephen A. Borrelli), 2008, *Social Science Quarterly*, 89:502-522.

"Economic and Politics: Egocentric or Sociotropic?," 2007, *American Review of Politics*, 27:191-208.

"After the Vote: Evaluating a Prospective Forecasting Model of Presidential Elections," 2005, *PS: Political Science and Politics*, 28:39-40.

"A Comparison of Incumbency Across Institutions: A Look at the House, Senate, and Governorships," 2004, *American Review of Politics*, 25:287-304.

"A Look to the Future: Forecasting the 2004 Presidential Election," 2004, *PS: Political Science and Politics*, 37:741-745.

"Georgia: Partisan Parity in the Peach State," (with John A. Clark, Audrey A. Haynes, and Jason M. Seitz.) 2003, *American Review of Politics*, 24:35-52.

"Party Identification: Constancy and Change," 2002, *American Politics Research*, 30:384-405.

"Forecast 2000: An Afterthought," 2001, *American Politics Research*, 29:307-313.

"The Partisan Component to the Incumbency Advantage: 1956-1996," 1999, *Political Research Quarterly*, 52:631-646.

"An Integrative Approach to Modeling Presidential Success in Congress," (with Stephen Borrelli and Scott Hedger), 1998, *Political Research Quarterly*, 51:155-172.

"The Electoral Consequences of Voting to Declare War," (with James L. Regens and Ronald Keith Gaddie), 1995, *Journal of Conflict Resolution*, 39:168-182.

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"The Sophomore Surge: Conversion, Mobilization, or Abstention," 1994, *Political Research Quarterly*, 47:961-968.

"Party Contacting and Political Participation, 1952-1990," (with Peter W. Wielhouwer), 1994, *American Journal of Political Science*, 38:211-229.

"Economic Dissatisfaction and Political Alienation in Western Europe," 1993, *European Journal of Political Research*, 23:281-293.

"Making Choices About Choice: House Support for Abortion Funding," (with James L. Regens), 1993, *Social Science Research*, 22:24-32.

"Election Marginality, District Homogeneity, and Policy Responsiveness," 1992, *Midsouth Journal of Political Science*, 13:341-354.

"Elections and the Responsiveness of Incumbents: A Response to Bernstein," 1992, *Midsouth Journal of Political Science*, 13:361-362.

"Prospective Voting in Presidential Elections: 1956-1988," 1992, *American Politics Quarterly*, 20:308-325.

"The Influence of Levels of Information on the Use of Prospective Evaluations," 1991, *Political Behavior*, 13:223-235.

"Prospective Economic Voting in House Elections, 1956-1988," 1991, *Legislative Studies Quarterly*, 16:239-262.

"The Temporal Pattern of Economic Evaluations and Vote Choice in Senate Elections," 1991, *Public Choice*, 69:279-294.

"Question Wording and Support for Contra Aid, 1983-1986," (with Stephen A. Borrelli), 1990, *Public Opinion Quarterly*, 54:195-208. [Reprinted in Questionnaires, edited by Martin Bulmer, 2004, Sage Publications.]

"Change in Party Identification: The Role of Prospective Economic Evaluations," 1989, *American Politics Quarterly*, 17:291-311.

"Economics, Votes, Protests: West European Cases," (with Michael S. Lewis-Beck), 1989, *Comparative Political Studies*, 22:155-177.

"Getting Inside the Beltway: Perceptions of Presidential Skill and Success," (with Stephen A. Borrelli), 1989, *British Journal of Political Science*, 19:97-106.

"Why the Democratic-Republican Partisanship Gap Varies From Poll to Poll," (with Richard Niemi and Stephen Borrelli), 1987, *Public Opinion Quarterly*, 51:115-119.

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Introduction," (with Laurence C. Moreland and Robert Steed), 2002, in Robert P. Steed and Laurence C. Moreland, editors, *The 2000 Presidential Election in the South*, Westport, CT: Praeger Press.

"Election Forecasting: A Look to The Future," 2000, in James C. Garand and James E.Campbell, eds., *Before the Vote*, 133-144, Beverly Hills: Sage Press.

"Split Partisan Identification," (with John A. Clark), 1998, in Charles D. Hadley and Lewis Bowman, editors, Political Party Activists in Southern Politics: Mirrors and Makers of Change, 111-128, Knoxville, Tennessee: University of Tennessee Press.

"Campaign Activities," (with John A. Clark and Peter W. Wielhouwer), 1998, in Robert P. Steed, John A. Clark, Lewis Bowman, and Charles D. Hadley, editors, *Party Organization and*

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Activism in the American South, Tuscaloosa, Alabama: University of Alabama Press.

"Georgia: Two-Party Political Reality!" (with John A. Clark), 1997, in Laurence W. Moreland and Robert P. Steed , editors, *The 1996 Presidential Election in the South: Southern Party Systems in the 1990s*, 65-76, Westport Connecticut: Praeger Press.

"Georgia: Two-Party Political Reality?," (with John A. Clark), 1995, in Charles D. Hadley and Lewis Bowman, editors, *Southern State Party Organizations and Activists*, 127-144, Westport, Connecticut: Praeger Press.

"Georgia: A State in Transition," (with John A. Clark), 1994, in Robert P. Steed, Laurence W. Moreland, and Tod A. Baker, editors, *The 1992 Presidential Election in the South*, 39-50, Westport Connecticut: Praeger Press.

"United States of America," (with Arthur H. Miller), 1992, in Mark Franklin, Tom Mackie, and Henry Valen, editors, *Electoral Change: Responses to Evolving Social and Attitudinal Structures in Western Countries*, 362-382, Cambridge: Cambridge University Press.

"Electoral change and social change," (with Mark Franklin, Tom Mackie, Henry Valen, et al.), 1992, in Mark Franklin, Tom Mackie, Henry Valen, editors, *Electoral Change: Responses to Evolving Social and Attitudinal Structures in Western Countries*,33-60, Cambridge: Cambridge University Press.

BOOK REVIEW

Ragsdale, Lyn and Jerrold G. Rusk. *The American Nonvoter*. NY: New York: Oxford University Press, 2017. 315 pages

GRANTS

Southern Grassroots Party Activists Project
NSF Grant SES-9009846
Southern Grassroots Party Activists Project II
NSF Grant SES-9986501

WORKS IN PROGRESS

Religion and Voting Behavior in American Politics
Ethnicity, Religion and Political Engagement
Multiracial Churches: Are their Black and White Parishioners different?

PAPERS

"Race and Religion," proposed for presentation on the Race, Ethnicity, and Politics section at the Annual Meeting of the Midwest Political Science Association, 2022.

"Multiracial Churches: Are their Black and White Parishioners different?" presented at the Annual Meeting of the Annual Meeting of the Southern Political Science Association, 2019.

"Ethnicity, Religion, and Political Engagement" presented at the Annual Meeting of the Midwest Political Science Association, 2016.

"Economics and Election Outcomes: The Presidency and the House" presented at the Annual

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Meeting of the Southern Political Science Association, 2013.

"Actions, Attitudes, and Affiliations: Race, Religion, and Voting Behavior" presented at The Annual Meeting of the Midwest Political Science Association, April, 2009.

"Election Forecasting: The Future of the Presidency and the House" presented at the Annual Meeting of the Southern Political Science Association, 2013.

"Religion and Voting Behavior: A Question of Black and White" presented The Annual Meeting of the Southern Political Science Association, January 2007.

"A Question of War: Question Wording and Support for War in Iraq" (with Stephen A. Borrelli) presented at The Annual Meeting of the Midwest Political Science Association, April, 2005.

"Voting in the States: Incumbency and Economics in the 1990s" presented at The Annual Meeting of the Southern Political Science Association, November, 2001.

"Economics and Politics: Egocentric or Sociotropic?" presented at The Annual Meeting of the Midwest Political Science Association, April 27-30, 2000.

"Party Identification: A Dynamic Model" presented at The Annual Meeting of the Southern Political Science Association, November, 1999.

"Forecasting Legislative Elections: A Look to the Future," presented at The Annual Meeting of the Southwestern Social Science Association, March, 1999.

"The Partisan Component to the Incumbency Advantage: an extension," presented atThe Annual Meeting of the Midwest Political Science Association, April 23-25, 1998.

"The Partisan Component to the Incumbency Advantage," presented at The Annual Meeting of the Southern Political Science Association, November 7-9, 1996.

"Race and Voting Behavior in Presidential Elections: 1952-1992," presented at The Annual Meeting of the Midwest Political Science Association, April 18-20, 1996.

"The Incumbency Advantage and Economic Voting in Gubernatorial and Senate Elections: A Comparison at the Individual Level," presented at The Annual Meeting of the Southern Political Science Association, November 1-4, 1995.

"Election Forecasting: A Look to the Future," presented at The Annual Meeting of the American Political Science Association, August 31- September 3, 1995.

"Economic Accountability and Multiparty Government in Western Europe, 1973-1989," (with Kevin M. Leyden, Terry J. Royed, and Stephen A. Borrelli) presented at the Annual Meeting of the Midwest Political Science Association, April 6-8, 1995.

"Hidden Honeymoons? Agendas and the Dynamics of Presidential Influence in Congress," (with Stephen A. Borrelli) presented at The Annual Meeting of the Southern Political Science Association, November 2-5, 1994.

"The Presidential Honeymoon: Is It Overrated?" (with Stephen A. Borrelli) presented at The Annual Meeting of the Midwest Political Science Association, Apri1 14-16, 1994.

"Ideological Dispersion and the Composition of Party Systems," (with James L. Regens) presented at The Annual Meeting of the American Political Science Association, September 2-5, 1993.

"Party Integration in Southern Local Parties," (with John A. Clark) presented at The Annual Meeting of the American Political Science Association, September 2-5, 1993.

"Ideological Dispersion and the Number of Parties in Western Democracies," (with James L. Regens) presented at the Meetings of The Public Choice Society in conjunction with The

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Economic Science Association, March 17-20, 1993.

"The Incumbency Advantage: A Micro- and Macro-level Phenomenon," (with Charles S. Bullock, III) presented at The Annual Meeting of the Southern Political Science Association, November 5-8, 1992.

"The Influence of Party Contact, Economics and Attitudes on Political Participation, 1952-1990," (with Peter W. Wielhouwer) presented at The Annual Meeting of the American Political Science Association, September 3-6, 1992.

"Split Partisanship Among Grassroots Party Activists," (with John A. Clark) presented at The Annual Meeting of the American Political Science Association, September 3-6, 1992.

"Party Activists in Georgia," (with John A. Clark), presented at The 1992 Citadel Symposium on Southern Politics, March 5-6,1992.

"The Incumbency Advantage: Conversion, Mobilization, or Abstention," presented at the Annual Meeting of the Southern Political Science Association, November 7-9, 1991.

"The Craven Politician: Congressional Vote Choice and the Budget Deficit," (with James L.Regens), presented at the Meetings of The Public Choice Society in conjunction with The Economic Science Association, March 15-17, 1991.

"Economic Dissatisfaction and Political Alienation in Western Europe," presented at the Annual Meeting of the Southern Political Science Association, November 8-10, 1990.

"Prospective Voting in Presidential Elections: 1956-1988," presented at the Annual Meeting of the Midwest Political Science Association, April 4-7, 1990.

"Marginality and Policy Responsiveness," presented at the Annual Meeting of the Southern Political Science Association, November 2-4, 1989.

"The Impact of Levels of Information on the Use of Prospective Evaluations," presented at the Annual Meeting of the American Political Science Association, August 31-September 3, 1989.

"Prospective Voting and Political Trust," presented the Annual Meeting of the Midwest Political Science Association, April 13-15, 1989.

"Prospective Economic Voting and Casework in House Elections, 1952-1986," presented at the Annual Meeting of the Southern Political Science Association, November 3-6, 1988.

"Prospective Voting in Senate Elections, 1952-1986," presented at the Annual Meeting of the Southern Political Science Association, November 4-7, 1987.

"Party Identification: Prospective or Retrospective," presented at the Annual Meeting of the American Political Science Association, September 3-6, 1987.

"Economics, Culture, and Participation: West European Cases," (with Michael S. Lewis-Beck), presented at the Annual Meeting of the American Political Science Association, September 3-6, 1987.

"Getting Inside the Beltway: A New Approach to Presidential Skill and Success," (with Stephen A. Borrelli), presented at the Annual Meeting of the Midwest Political Science Association, April 9-11, 1987.

"Marginality-Homogeneity and Responsiveness Revisited," paper presented at the Annual Meeting of the Southern Political Science Association, November 5-8, 1986.

OTHER PROFESSIONAL ACTIVITIES

Discussant on Elections panel at The Annual Meeting of the Southern Political Science Association, 2013.

Discussant on Elections panel at The Annual Meeting of the Southern Political Science Association, 2010.

Participant on the Forecasting the 2008 Election roundtable at The Annual Meeting of the American Political Science Association, August, 2008.

Participant on the Forecasting the 2004 Election roundtable at The Annual Meeting of the American Political Science Association, September, 2004.

Chair/Discussant on the Dynamics of Partisanship panel at The Annual Meeting of the Southern Political Science Association, November, 2001.

Discussant on the Issue Ownership and Policy Voting panel at The Annual Meeting of the American Political Science Association, September, 2001.

Participant on the Forecasting the 2000 Election roundtable at The Annual Meeting of the American Political Science Association, September, 2000.

Discussant on the Vote choice Panel at The Annual Meeting of the Midwest Political Science Association, April 27-30, 2000.

Chair of the Vote Choice Strategies Panel at The Annual Meeting of the American Political Science Association, September 2-5, 1999.

Chair of the Policy Balancing and Split Ticket Voting in National and Subnational Elections Panel at The Annual Meeting of the Midwest Political Science Association, April 15-17, 1999.

Discussant on the Presidential Influence in Congress Panel at The Annual Meeting of the Midwest Political Science Association, April 15-17, 1999.

Chair of Issues of Representation in National and State Legislatures Panel at The Annual Meeting of the Southwestern Social Science Association, March, 1999.

Discussant on the Individual Decision Processes Panel at the Annual Meeting of the Southern Political Science Association, October 28-31, 1998.

Discussant on the Economic and Ideological Effects and Partisanship on the Vote Panel at The Annual Meeting of the American Political Science Association, August 26-30, 1998.

Discussant on the Voting Behavior panel at the Biannual Citadel Symposium on Southern Politics, March, 1998.

Discussant on the Presidential Success in Congress Panel at The Annual Meeting of the Southern Political Science Association, November 7-9, 1997.

Discussant on the Elections and the Economy Panel at The Annual Meeting of the American Political Science Association, August 28-31, 1997.

Chair/Discussant on the Issues, Preferences, and Electoral Choices panel at The Annual Meeting of the Midwest Political Science Association, April 10-12, 1997.

Discussant on the Partisan Dynamics of Elections panel at The Annual Meeting of the Southern Political Science Association, November 7-9, 1996.

Participant on the Forecasting the 1996 Election roundtable at The Annual Meeting of the American Political Science Association, August 29-September 1, 1996

Chair of the Distributive Politics in State and Federal Legislatures panel at The Annual Meeting of the Midwest Political Science Association, April 18-20, 1996.

Discussant on the Issue Preferences and Voter Choice panel at The Annual Meeting of the Southern Political Science Association, November 1-4, 1995.

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Discussant on the Mobilizing Participation panel at The Annual Meeting of the Midwest Political Science Association, April 6-8, 1995.

Delivered the Plenary Address "The 1994 Midterm Elections and the American Political System" at the Annual Meeting of the Georgia Political Science Association, February 24-25, 1995.

Discussant on the Economic Conditions and Political Behavior from a Comparative Perspective panel at the Annual Meeting of the Southern Political Science Association, November 3-6, 1993.

Participant on Roundtable on the 1992 U.S. Elections at The Annual Meeting of the Georgia Political Science Association Meeting, February 25-27, 1993.

Discussant on the Congressional Elections panel of the Public Opinion and Elections Section at the Annual Meeting of the Southern Political Science Association, November 5-8, 1992.

Presentation on turnout at the Symposium on "Public and Private Cooperation for Argentian Counsel for Coca Cola.

Discussant on the Age and Political Socialization panel of the Political Attitudes, Behavior, and Psychology Section at the Annual Meeting of the Midwest Political Science Association, April 5-7, 1990.

Organized and chaired The Changing Nature of Elections panel at the Annual Meeting of Georgia Political Science Association, February 2-3, 1990.

Staff member, Robert A. Taft Institute of Government Seminar, University of Georgia Department of Social Science Education and Institute of Government, July 9-21, 1989, July 9-20, 1990, July 8-19, 1991, June 23-July 6, 1993.

Discussant on the Economics of Electoral Choice panel of the Elections, Voting, and Media Section at the Annual Meeting of the Midwest Political Science Association, April 13-15, 1989.

Discussant on the Primaries panel of the Elections, Voting, and the Media Section at the Annual Meeting of the Midwest Political Science Association, April 14-16, 1988.

MANUSCRIPT REVIEWER

National Science Foundation - Political Science Division
National Science Foundation - Economics Division
American Political Science Review
American Journal of Political Science
Journal of Politics
Western Political Quarterly
Political Research Quarterly
Social Science Quarterly
Legislative Studies Quarterly
American Politics Quarterly
Political Behavior
Comparative Politics
Southeastern Political Review
State and Local Government Review

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Pearson Publishing
Thomson Publishing
Pennsylvania State Press
West Publishing Company
McGraw Hill Publishing
Sage Publications

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Georgia Trial Lawyers Association
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Lumber City, Georgia
University of Iowa Social Science Institute

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UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

DONALD AGEE, JR., an individual, *et al.,*

          Plaintiffs,

v.

JOCELYN BENSON, in her official capacity
as the Secretary of State of Michigan, *et al.*;

          Defendants.

Case No. 1:22-cv-00272

**Three-Judge Panel Appointed Pursuant to
28 U.S.C. § 2284(a)**

<u>Expert Report of Sean P. Trende</u>

January 18, 2023

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I.   Expert Qualifications

I serve as Senior Elections Analyst for RealClearPolitics. I joined RealClearPolitics in January of 2009 after practicing law for eight years. I assumed a fulltime position with RealClearPolitics in March of 2010. RealClearPolitics is a company of around 50 employees, with its main offices in Washington D.C. It produces one of the most heavily trafficked political websites in the world, which serves as a one-stop shop for political analysis from all sides of the political spectrum and is recognized as a pioneer in the field of poll aggregation. It produces original content, including both data analysis and traditional reporting. It is routinely cited by the most influential voices in politics, including David Brooks of *The New York Times*, Brit Hume of Fox News, Michael Barone of The Almanac of American Politics, Paul Gigot of The Wall Street Journal, and Peter Beinart of The Atlantic.

My main responsibilities with RealClearPolitics consist of tracking, analyzing, and writing about elections. I collaborate in rating the competitiveness of Presidential, Senate, House, and gubernatorial races. As a part of carrying out these responsibilities, I have studied and written extensively about demographic trends in the country, exit poll data at the state and federal level, public opinion polling, and voter turnout and voting behavior. In particular, understanding the way that districts are drawn and how geography and demographics interact is crucial to predicting United States House of Representatives races, so much of my time is dedicated to that task.

Publications and Speaking Engagements:

I am currently a Visiting Scholar at the American Enterprise Institute, where my publications focus on the demographic and coalitional aspects of American Politics. I am also the author of *The Lost Majority: Why the Future of Government is up For Grabs and Who Will Take It*. In this book, I explore realignment theory. It argues that realignments are a poor concept that should be abandoned. As part of this analysis, I conducted a thorough analysis of demographic and political trends beginning in the 1920s and continuing through the modern times, noting the fluidity and fragility of the coalitions built by the major political parties and their candidates.

I also co-authored the 2014 Almanac of American Politics. The Almanac is considered the foundational text for understanding congressional districts and the representatives of those districts, as well as the dynamics in play behind the elections. PBS's Judy Woodruff described the book as "the oxygen of the political world," while NBC's Chuck Todd noted that "Real political junkies get two Almanacs: one for the home and one for the office." My focus was researching the

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history of and writing descriptions for many of the newly-drawn districts, including tracing the history of how and why they were drawn the way that they were drawn. I was assigned Texas as one of my states. I have also authored a chapter in Larry Sabato's post-election compendium after every election dating back to 2012.

I have spoken on these subjects before audiences from across the political spectrum, including at the Heritage Foundation, the American Enterprise Institute, the CATO Institute, the Bipartisan Policy Center, and the Brookings Institution. In 2012, I was invited to Brussels to speak about American elections to the European External Action Service, which is the European Union's diplomatic corps. I was selected by the United States Embassy in Sweden to discuss the 2016 elections to a series of audiences there and was selected by the United States Embassy in Spain to fulfill a similar mission in 2018. I was invited to present by the United States Embassy in Italy, but was unable to do so because of my teaching schedule.

Education:

I am currently enrolled as a doctoral candidate in political science at The Ohio State University. I have completed all my coursework and have passed comprehensive examinations in both methods and American Politics. In pursuit of this degree, I have also earned a Master's Degree in Applied Statistics. My coursework for my Ph.D. and M.A.S. included, among other things, classes on G.I.S. systems, spatial statistics, issues in contemporary redistricting, machine learning, non-parametric hypothesis tests and probability theory.

In the winter of 2018, I taught American Politics and the Mass Media at Ohio Wesleyan University. I taught Introduction to American Politics at The Ohio State University for three semesters from Fall of 2018 to Fall of 2019, and again in Fall of 2021. In the Springs of 2020 and 2021, I taught Political Participation and Voting Behavior at The Ohio State University. This course spent several weeks covering all facets of redistricting: How maps are drawn, debates over what constitutes a fair map, measures of redistricting quality, and similar topics. I am teaching this course this semester as well.

Prior Engagements as an Expert:

In 2021, I served as one of two special masters appointed by the Supreme Court of Virginia to redraw the districts that will elect the Commonwealth's representatives to the House of Delegates, state Senate, and U.S. Congress in the following decade. The Supreme Court of Virginia accepted those maps, which were praised by observers from across the political spectrum. "New

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Voting Maps, and a New Day, for Virginia," *The Washington Post* (Jan. 2, 2022), *available at* https://www.washingtonpost.com/opinions/2022/01/02/virginia-redistricting-voting-mapsgerrymandee; Henry Olsen, "Maryland Shows How to do Redistricting Wrong. Virginia Shows How to Do it Right," The Washington Post (Dec. 9, 2021), *available at* https://www. washingtonpost.com/opinions/2021/12/09/maryland-virginia-redistricting/; Richard Pildes, "Has VA Created a New Model for a Reasonably Non-Partisan Redistricting Process," *Election Law Blog* (Dec. 9, 2021), available at https://electionlawblog.org/?p=126216.

In 2019, I was appointed as the court's expert by the Supreme Court of Belize. In that case I was asked to identify international standards of democracy as they relate to malapportionment claims, to determine whether Belize's electoral divisions (similar to our congressional districts) conformed with those standards, and to draw alternative maps that would remedy any existing malapportionment.

I served as a Voting Rights Act expert to counsel for the Arizona Independent Redistricting Commission in 2021 and 2022.

I previously authored an expert report in *Dickson v. Rucho*, No. 11-CVS-16896 (N.C. Super Ct., Wake County), which involved North Carolina's 2012 General Assembly and Senate maps. Although I was not called to testify, it is my understanding that my expert report was accepted without objection.

I also authored an expert report in *Covington v. North Carolina*, Case 5 No. 1: 15-CV-00399 (M.D.N.C.), which involved almost identical challenges in a different forum. Due to what I understand to be a procedural quirk, where my largely identical report from Dickson had been inadvertently accepted by the plaintiffs into the record when they incorporated parts of the Dickson record into the case, I was not called to testify.

I authored two expert reports in *NAACP v. McCrory*, No. 1:13CV658 (M.D.N.C.), which involved challenges to multiple changes to North Carolina's voter laws. I was admitted as an expert witness and testified at trial. My testimony discussed the "effect" prong of the Voting Rights Act claim. I did not examine the issues relating to intent.

I authored reports in *NAACP v. Husted*, No. 2:14-cv-404 (S.D. Ohio), and *Ohio Democratic Party v. Mated*, Case 15-cv-01802 (S.D. Ohio), which dealt with challenges to various Ohio voting laws. I was admitted and testified at trial in the latter case (the former case settled). The judge in the latter case ultimately refused to consider one opinion, where I used an internet map-drawing

tool to show precinct locations in the state. Though no challenge to the accuracy of the data was raised, the judge believed I should have done more work to check that the data behind the application was accurate.

I served as a consulting expert in *Lee v. Virginia Board of Elections*, No. 3:15-cv-357 (E.D. Va. 2016), a voter identification case. Although I would not normally disclose consulting expert work, I was asked by defense counsel to sit in the courtroom during the case and review testimony. I would therefore consider my work de facto disclosed.

I filed an expert report in *Mecinas v. Hobbs*, No. CV-19-05547-PHX-DJH (D. Ariz. 2020). That case involved a challenge to Arizona's ballot order statute. Although the judge ultimately did not rule on a motion *in limine* in rendering her decision, I was allowed to testify at the hearing.

I authored two expert reports in *Feldman v. Arizona*, No. CV-16-1065-PHX-DLR (D. Ariz.). Plaintiffs in that case challenged an Arizona law prohibiting the collection of voted ballots by third parties that were not family members or caregivers and the practice of most of the state's counties to require voters to vote in their assigned precinct. My reports and testimony were admitted. Part of my trial testimony was struck in that case for reasons unrelated to the merits of the opinion; counsel for the state elicited it while I was on the witness stand and it was struck after Plaintiffs were not able to provide a rebuttal to the new evidence.

I authored an expert report in *Pascua Yaqui Tribe v. Rodriguez*, No. 4:20-CV-00432-TUC-JAS (D. Ariz.), which involved early voting. My expert report and testimony were admitted at trial.

I authored expert reports in *A. Philip Randolph Institute v. Smith*, No. 1 :18-cv-00357-TSB (S.D. Ohio), *Whitford v. Nichol*, No. 15-cv-421-bbc (W.D. Wisc.), and *Common Cause v. Rucho*, NO. 1:16-CV-1026-WO-JEP (M.D.N.C.), which were efficiency gap-based redistricting cases filed in Ohio, Wisconsin, and North Carolina.

I have only been excluded as an expert once, in *Fair Fight v. Raffensperger*. The judge concluded that I lacked sufficient credentials to testify as an expert in election administration.

I authored an expert report in the cases of *Ohio Organizing Collaborative, et al v. Ohio Redistricting Commission*, et al (No. 2021-1210); *League of Women Voters of Ohio, et al v. Ohio Redistricting Commission*, et al (No. 2021-1192); *Bria Bennett, et al v. Ohio Redistricting Commission*, et al (No. 2021-1 198). That case was decided on the written record.

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I authored two expert reports in the consolidated cases of *NCLCV v. Hall* and *Harper v. Hall* (21 CVS 15426; 21 CVS 500085), two political/racial gerrymandering cases. My reports and testimony were admitted.

I authored two expert reports in the consolidated cases of *Montana Democratic Party v. Jacobson*, DV-56-2021-451 (Mont. Dist. Ct.). These cases involve the elimination of same-day registration, use of student identification to vote, and the restriction of ballot collection.

I authored an expert report on behalf of amicus curiae in the consolidated cases of *Carter v. Chapman* (No. 464 M.D. 2021) and *Gressman v. Chapman* (No. 465 M.D. 2021), which were redistricting cases before the Supreme Court of Pennsylvania.

I filed an expert report in *Harkenrider v. Hochul*, (No. E2022-0116CV), which is a partisan gerrymandering challenge to New York's enacted Congressional and state Senate maps. My reports and testimony were admitted.

I filed an expert report in *Szeliga v. Lamone*, Case No. C-02-CV-21-001816 (Md. Cir. Ct.) and *In the Matter of 2022 Legislative Redistricting of the State*, Misc. No. 25 (Md. Ct. App.), political gerrymandering cases in Maryland. My reports and testimony were admitted.

I filed an expert report in *Graham v. Adams*, (No. 22-CI-00047) (Ky. Cir. Ct.), a political gerrymandering case. I was admitted as an expert and allowed to testify as trial.

I filed an expert report in *NAACP v. McMaster*, (No. 3:21-cv-03302-JMC-T,11-1- RMG), which is a racial gerrymandering challenge to South Carolina's enacted state House maps.

A full c.v., which includes all qualifications, including a list of all publications authored in the previous 10 years; a list of all other cases in which, during the previous 4 years, I testified as an expert at trial or by deposition; is attached as *Appendix A*.

II.   **Scope of engagement**

I was retained by plaintiffs to explore whether and to what extent the newly enacted maps for the Michigan House of Representative (referred to herein as the "Hickory Map" or "Hickory Plan") and Senate (referred to herein as the "Linden Map" or "Linden Plan"), drawn by the newly created Michigan Independent Citizens Redistricting Commission (MICRC) pursuant to Mich. Const. Art. IV §6A, will create districts as required by the Voting Rights Act of 1965, as amended. In particular, I was asked to explore whether such districts are required by the Supreme Court's directives in *Thornburg v. Gingles*, 478 U.S. 30 (1986) and, if so, whether the districts in the Hickory and Linden Maps will perform by electing the minority candidate of choice. I was also

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asked to examine whether race predominated in the drawing of the districts for both maps, employing both qualitative and quantitative techniques. As a part of this endeavor, I was asked to compare the maps to the maps that were in effect from the 2012-2020 elections, referred to as either the "Benchmark Plan" or "Benchmark Maps." I am being compensated at the rate of $400/hr. My compensation is in no way contingent upon my findings.

III.   Introduction and Summary of Opinions

On June 24, 2022, MICRC commissioner Rebecca Szetela published a 19-page report that suggested discomfort with the way districts were drawn in the Detroit metro area. In particular, Commissioner Szetela claimed she was worried that she could not say "with any degree of confidence" whether Black-preferred candidates would emerge successfully from Democratic primaries. Rebecca Szetela, *Dissenting Report*, June 24, 2022, at 2. ("Szetla Report"). In a memorable turn of phrase, she claimed the MICRC's approach "was to follow a will-o'-the-wisp and rely on the hope that general election thresholds will magically translate into Black voters' candidates of choice advancing past the Democratic primaries." *Id.* at 8. The reason the Commission did this, according to Commissioner Szetela, was because the Commission's attorneys "aggressively" pushed to lower BVAPs in districts to 35% to 40%, ostensibly to avoid a challenge to the maps as packing minority voters. *Id.* at 5.

Szetela was right. Two months later, Black voters' candidates of choice lost multiple competitive primaries. The most striking result was found in the contest for the Democratic nomination in the newly drawn 8th Senate District. This district, which was redrawn to have a Black Voting Age Population ("BVAP") of 40%, in line with the lawyers' directives, ties together poor, heavily Black areas of Detroit with heavily White, more upscale cities near Pontiac, such as Birmingham.

Perhaps most importantly, it paired together two incumbents. Marshall Bullock was an African-American Senator who had been elected in a 45% BVAP district four years earlier. His opponent was state Senator Mallory McMorrow, who defeated a Republican incumbent in 2018 in a district that was then confined to the Oakland County suburbs; its BVAP was just 5%.

Voters were immensely polarized; Black voters favored Bullock 60 points, while White voters favored McMorrow by 90 points. In the end though, McMorrow won the district by a 36-point margin, in part because of the turnout advantage she enjoyed among high-propensity White voters and in part because White voters rallied behind her to a greater degree than Blacks did

<div align="center">7</div>

<div align="center">**JA00314**</div>

behind McMorrow. It was also, however, in part because map drawers drew the BVAP of the district so low that it would be impossible for any Black candidate to win a polarized election.

This is the first conclusion of this report: That although they were required to draw VRA-compliant districts, the MICRC failed in its task because it drew the BVAPs in many of these districts too low for Black voters to regularly compete.

This conclusion is consistent with contemporary observations by political journalists. Writing for MLive, Alyssa Burr reported that

> Democrats in the upcoming legislative term will have [fewer] Black lawmakers than currently serving, with the Senate dropping from five to three Black senators and 15 Black representatives now standing at 13. This also marks the first time in recent years there will be no Black men serving in the Michigan Senate.
>
> Adrian Hemond, a political consultant with Grassroots Midwest, said redistricting gave Democrats the key to take over the House and Senate after winning the majority in both chambers, but subsequently stripped down the political power of Black residents.
>
> "Democrats, in large part, can thank the redistricting commission for their legislative majorities, but the way they accomplished that was diminishing Black representation," Hemond said.
>
> Once-in-a-decade redistricting was completed last year by the Michigan Independent Citizens Redistricting Commission. The commission— made of four Republicans, four Democrats, and five Independents— was created by the passage of a 2018 ballot proposal intended to keep politicians out of the redistricting process in order to prevent political gerrymandering and make political districts more competitive.
>
> The new maps caused a "racial gerrymandering" to take place instead, Hemond said, with portions of Detroit being drawn together with areas like Macomb and Oakland counties, and various incumbents being drawn into the mix.

See Alyssa Burr, "Democrats Big Midterm Win Overshadows Loss of Black Voices," *MLive* (Nov. 15, 2022), *available at* https://www.mlive.com/politics/2022/11/democrats-big-midterm-win-overshadows-loss-of-black-voices.html.

Likewise, Bankole Thompson observed in the November 21, 2022 *Detroit News* that Democrats' state legislative wins:

> [S]tem from a very disgraceful reality: White liberals in the state have been reluctant to openly discuss the wider implications of the last redistricting process, which perhaps resulted in the smallest margin of Black representation in Lansing in decades. . . . Prior to redistricting,

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JA00315

Michigan boasted some 17 majority-minority districts. In essence, Democrats took the Legislature at a time when historically Black legislative representation is in decline. That is nothing to be proud of.

The second conclusion is tied in with the above narrative as well. Because the attorneys for the commission "aggressively" demanded that the BVAPs be pushed lower and lower, race came to predominate in the drawing of these districts. This is apparent from the anecdote above, which may be buttressed by fact witness testimony at trial. But it is also apparent from the shape of the districts, their racial compositions, and the fact that the Black population is carefully cracked and paired with White suburban voters.

In short: Based on the work performed as addressed in the following sections of the report, I hold to the following opinions to a reasonable degree of professional certainty:

- It is possible to draw ten reasonably compact House districts where the Black Voting Age Population (BVAP) is in excess of 50%, while also complying with the other demands of the Michigan constitution.

- There is substantial evidence of racially polarized voting in competitive Democratic state House primaries in Detroit.

- The Hickory Plan is likely to reduce the number of districts where Black voters can elect their candidate of choice. In fact, there was surprisingly little evidence to support the MICRC's apparent conclusion that districts with 35% to 40% BVAP would enable Black voters to win competitive Democratic primaries, especially when these voters would be paired with high propensity voters in the suburbs.

- Race predominated in the drawing of the Hickory Plan. This is confirmed by both qualitative and quantitative examinations of the districts.

- It is possible to draw five reasonably compact Senate districts where the BVAP is in excess of 50%, while also complying with the other demands of the Michigan constitution.

- There is substantial evidence of racially polarized voting in competitive Democratic state Senate primaries in Detroit.

- The Linden Plan is likely to reduce the number of districts where Black voters can elect their candidate of choice.

- Race predominated in the drawing of the Linden Plan. This is confirmed by both qualitative and quantitative examinations of the districts.

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JA00316

IV.   **Data Relied Upon and Construction of Datasets**

For purposes of this report, I reviewed and/or relied upon the following materials:

- Mapping data made available from the Michigan Independent Citizens Redistricting Commission (MICRC), available at https://www.michigan.gov/micrc/mapping-process/mapping-data;

- Shapefiles for census definitions of the block, precinct, census division and county data, downloaded from the Redistricting Data Hub, available at https://redistrictingdatahub.org/;

- Election return data at the precinct level, from the webpages of the clerks of Wayne, Oakland and Macomb counties;

- A shapefile of 2022 precincts, made available at https://gis-michigan.opendata.arcgis.com/datasets/Michigan::2022-voting-precincts/explore?location=44.892723%2C-86.310800%2C7.40;

- Other documents referenced in this report.

Because election data are made available at the precinct level, most of the district-wide election data is accurate. When precincts are split, however, it is necessary to estimate how many votes a candidate earned from each portion of the precinct. This is accomplished by taking the precinct-wide votes for each candidate and assigning them to census blocks. Rather than simply dividing by the number of blocks, analysts usually weight blocks by some number. Here, votes are assigned proportionally to the voting age population in each block. Separate sums for each portion of the precinct are then calculated by adding up the blocks in each precinct segment. Different approaches and weighting mechanisms can produce marginally different results. Following the guidance of the MICRC, I have defined Black as non-Hispanic Black alone, Asian as non-Hispanic Asian or Pacific Islander alone, and White as non-Hispanic White alone. Supplemental analysis contained in **Appendix B** performed with other definitions of Black confirms that none of the analyses herein would change if alternate definitions were utilized.

Precinct shapefiles were manually joined to the election results made available by the county clerks.

All shapefiles are projected using the WGS 84 projection.

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V.   **Background**

A. **Racial demographics of Michigan**

According to the United States Census Bureau, 61.6% of Michigan voters identified their race as White alone in 2020. Another 12.4% identified their race as Black alone, while 18.7% identified their ethnicity as Hispanic. Asian residents constituted 6% of the population, while American Indians identified constituted 1.1% of the population. Hawaiians and Pacific Islanders were 0.2% of the population, 8.4% of residents identified as "Some Other Race," while 10.2% of Michiganders responded that they identified with two or more races. https://www.census.gov/library/stories/state-by-state/michigan-population-change-between-census-decade.html. Note that these numbers do not add up to 100, because "Hispanic" is considered a separate, non-racial category. Thus, a Michigan resident may identify as Hispanic White, non-Hispanic White, Hispanic Black, non-Hispanic Black, and so forth.

Despite this diversity, Michigan's minority population is heavily concentrated. Of the 4,753 precincts in the state, non-Hispanic Whites constitute over 80% of the voting age population in 2,897 of them, or 61% of the precincts. Non-Hispanic Whites are a majority in 3,937 precincts, or 82.8%. Outside of Wayne, Saginaw, Genesee, Bay, and Oakland counties, non-Hispanic Whites constitute a majority of the population in 96% of all precincts.

This is perhaps best demonstrated by the following two maps. Black-majority precincts are largely confined to Wayne, Oakland, Genesee and Saginaw counties. Hispanic-majority precincts are largely non-existent.

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Figure 1:

Michigan Precincts, 2020, by BVAP

BVAP %

30%
35%
40%
45%
50%
55%
60%
65%
70%

12
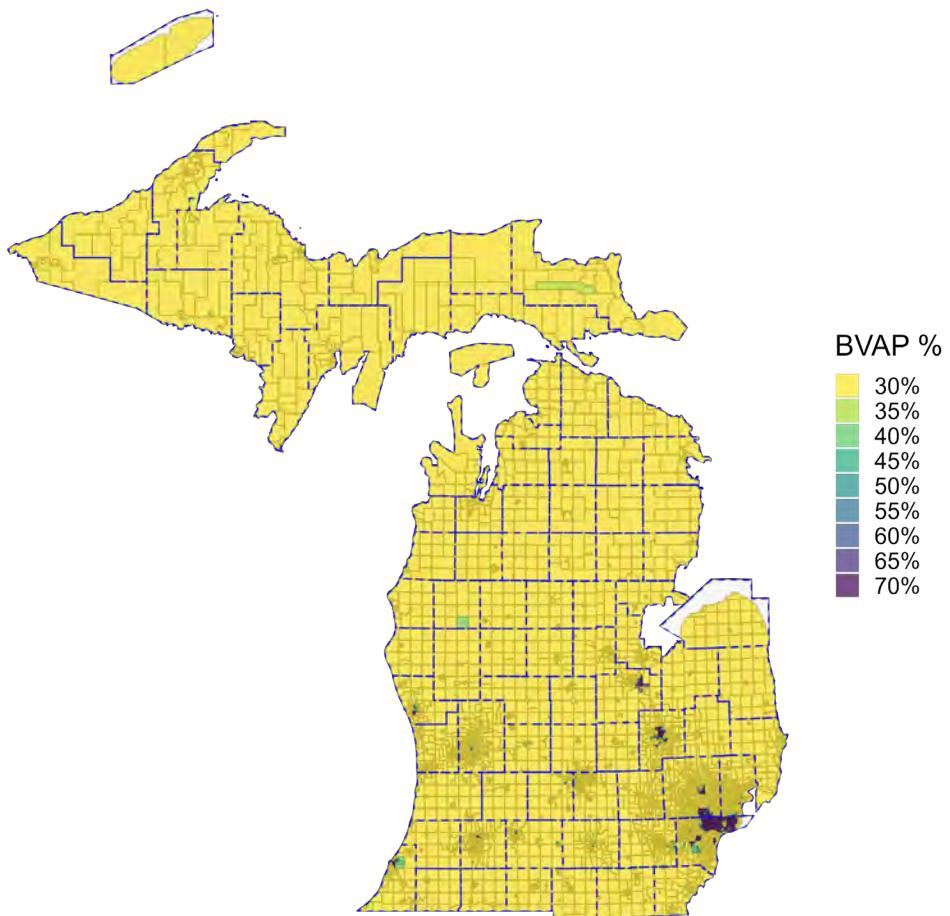
Figure 2:

Michigan Precincts, 2020, by Hispanic VAP

HVAP %
- 30%
- 35%
- 40%
- 45%
- 50%
- 55%
- 60%
- 65%
- 70%
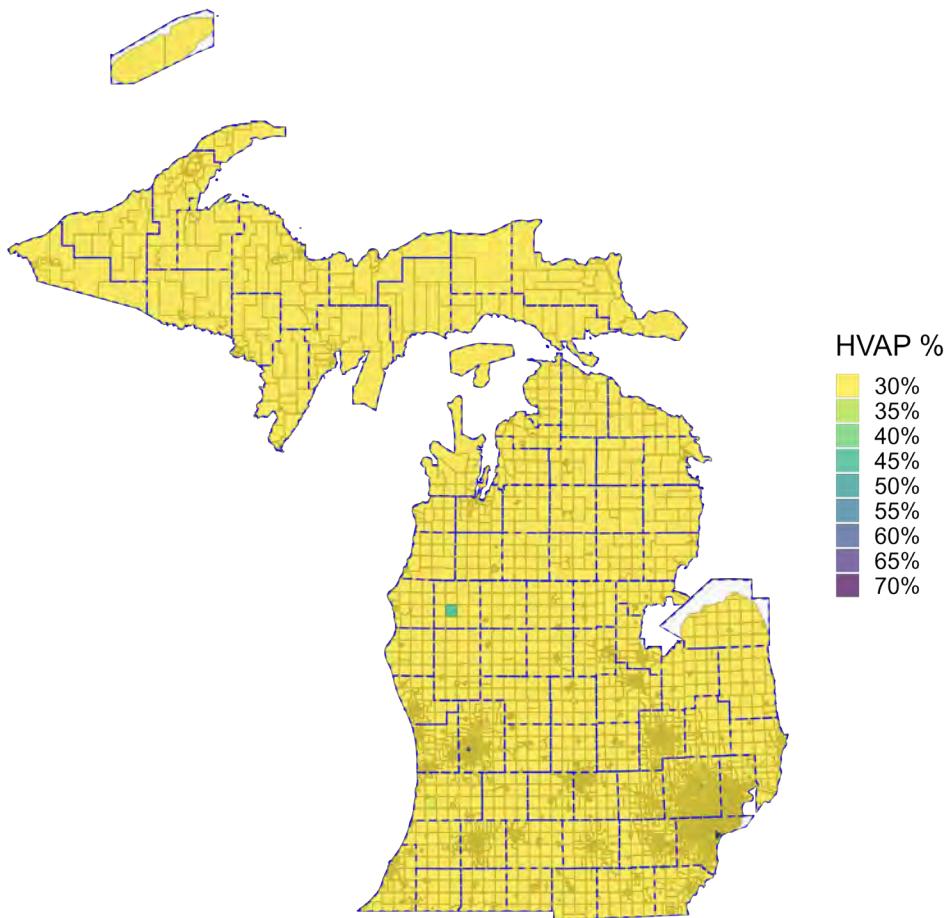
Instead, racial minorities are heavily concentrated in the Detroit Metro area. As the following map suggests, the non-White population is heavily concentrated in the City of Detroit, particularly western Detroit, in southern Oakland County, and around Pontiac.

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Figure 3

Detroit Precincts, 2020, by BVAP
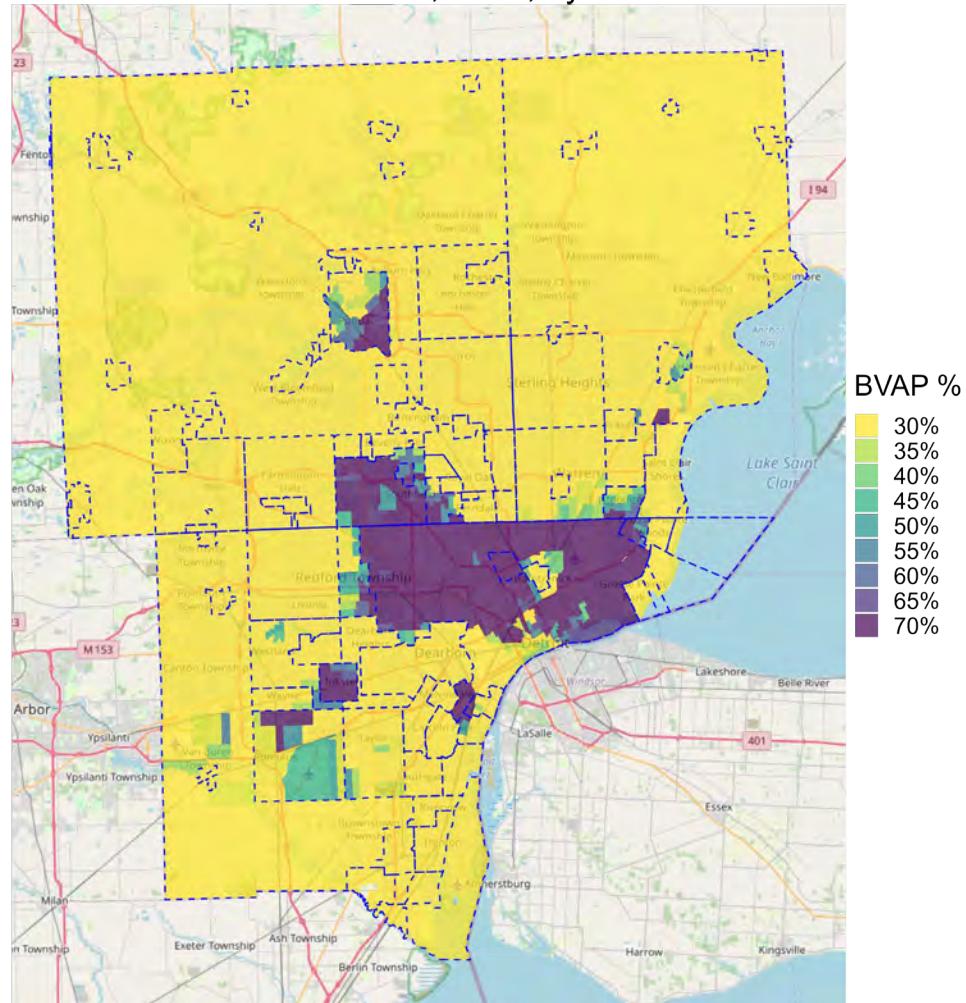
A final visualization of the distribution of racial groups in Detroit is set out in the following dot density map. *See Bethune-Hill v. Va. State Bd. of Elections*, 326 F. Supp. 3d 128, 145-146 (explaining and accepting dot density maps for VRA analysis). A dot density map takes an areal unit (in this dot density map, the precincts) and counts the number of individuals with a certain characteristic in each unit. Here, we count individuals by race. It then plots 1 dot randomly within that unit for each individual. A researcher can color-code the dots to help visualize the spatial distribution of individuals.

To keep the maps from becoming too cluttered, it is often helpful to place a dot for some ratio of individuals. In the following example, we place one dot for every 50 individuals of a given race or ethnicity for VTDs in Macomb, Oakland and Wayne counties. An orange "x" represents

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50 white residents of voting age, a blue dot is 50 Black residents of voting age, a teal dot represents 50 Hispanic residents of voting age, while a black dot represents 50 Asian residents of voting age.

Figure 4

Combined Populations of Macomb/Oakland/Wayne Counties, MI
1 Orange 'X' = 50 White Residents of Voting Age, 1 Blue Dot = 50 Black Residents of Voting Age
1 Teal Dot = 50 Hispanic Residents of Voting Age, 1 Black Dot = 50 Asian Residents of Voting Age
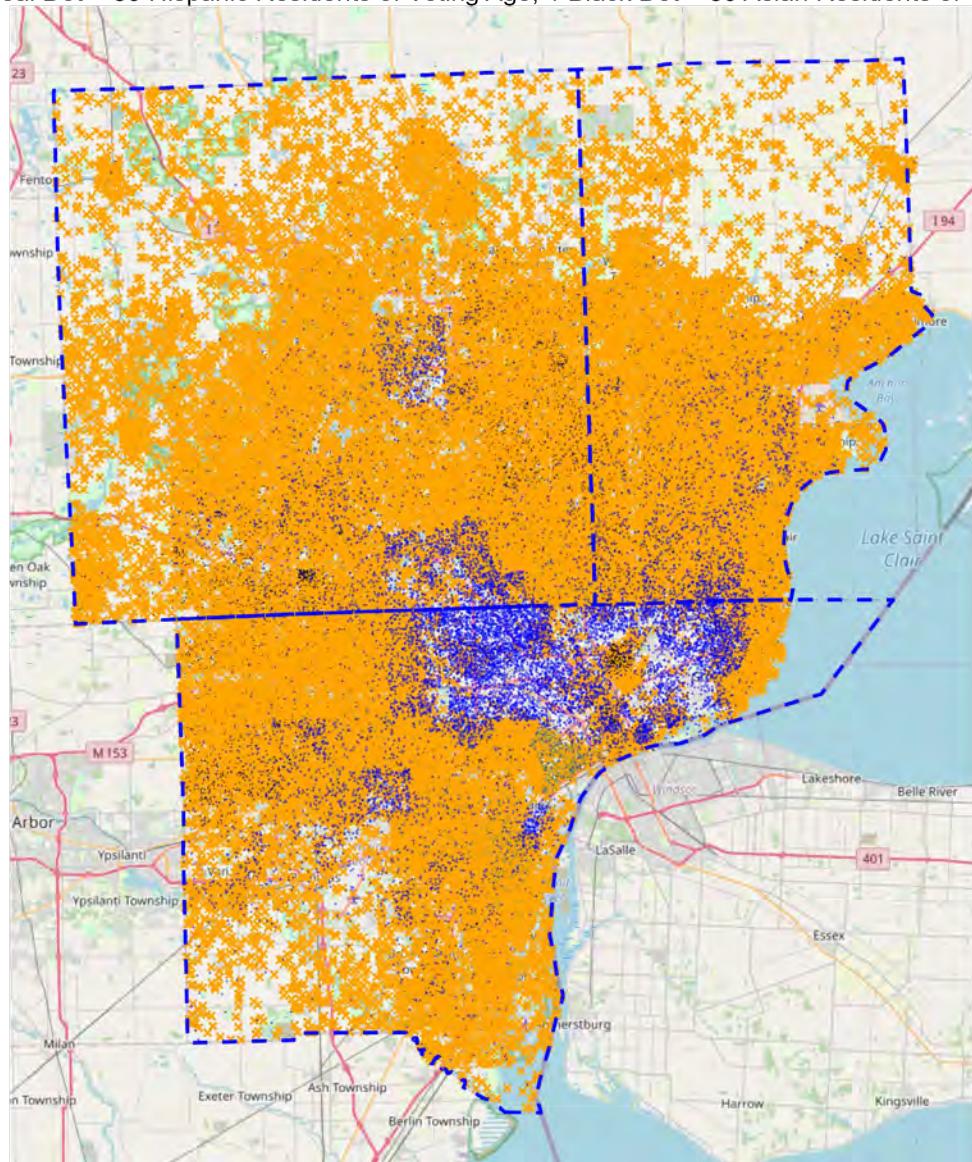
As you can see, the suburban counties are largely White, although there are Asian-American residents scattered throughout, with a few concentrations west of Detroit. There are concentrations of Black residents in Pontiac in central Oakland County, as well as on the Wayne County line in Southfield and Eastpointe. Northern Detroit is mostly Black, with a concentration of White and Asian residents in Hamtramck; the Grosse Pointes are also heavily White. Southern

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JA00322

and Western Wayne County are also White, with concentrations of Black residents around River Rouge, Inkster and Romulus. West of downtown Detroit is heavily Hispanic.

This is backdrop for the MICRC's maps. Because, to my knowledge, it is not possible to draw a district that will tend to elect the candidate of choice of any minority group other than Black voters, I focus my report on Black voters.

B. Michigan House and Senate Plans

For the redistricting following the 2020 decennial census, Michigan utilized the MICRC for the first time. This commission made substantial changes to the districts in metro Detroit. The following sets of maps illustrate these changes. In all of these maps, the districts lines are laid over the precincts, which are color-coded by the precincts' BVAP. To improve readability, the precinct outlines are removed here.

From 2012-2020, the districts were largely contained within whole counties. The Hickory Plan, however, traverses county lines repeatedly, particularly the Wayne/Oakland and Wayne/Macomb boundaries. Several Detroit-area districts are stretched out into heavily White areas of the suburbs.

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Figures 5, 6

Detroit Area House Districts, Benchmark Plan, by BVAP
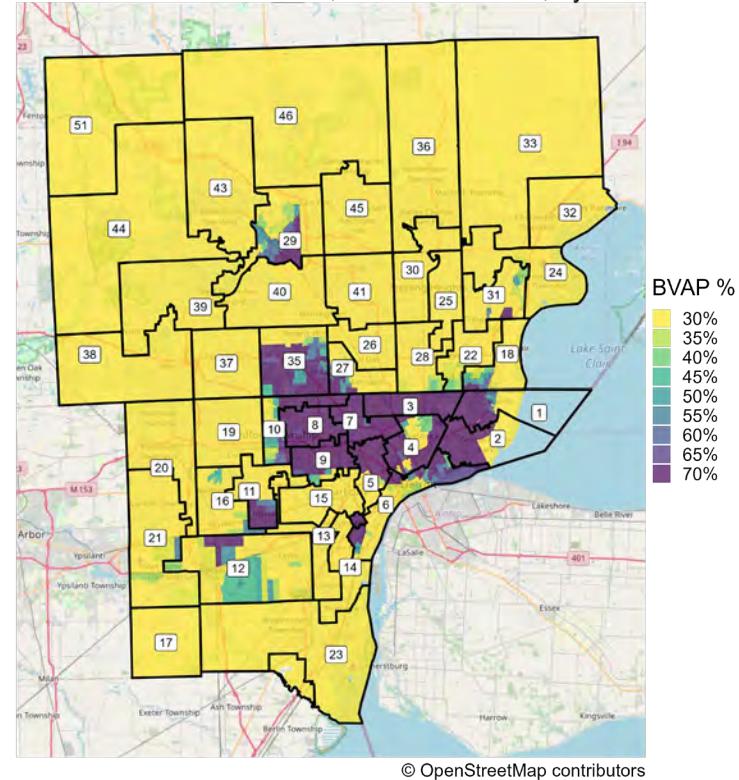
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Detroit Area House Districts, Hickory Plan, by BVAP

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The net effect of this is to reduce the Black voting percentage multiple districts. These data are presented both in tabular and map form. The color shading in the following two maps displays the aggregate BVAP at the district level. The reduction in the BVAP in the Detroit area districts is evident from the lightened shade of the districts.

Figure 7

The following table summarizes this, showing the districts under the various plans with the highest percent BVAP. Under the Benchmark Map, eleven districts are majority Black, ten of which are in the Detroit area. An additional district, District 4, is 47.65% Black. Under the reconstituted lines, however, only seven districts have a BVAP in excess of 46.2%, six of which are in the Detroit area.

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Table 1

BVAP in 20 Most Heavily Black Michigan Districts			
Benchmark Plan		Hickory Plan	
District	BVAP	District	BVAP
7	92.0%	4	55.6%
8	90.1%	5	55.3%
3	88.6%	6	54.9%
9	72.2%	16	54.9%
10	65.4%	18	52.2%
1	63.2%	9	51.7%
35	60.5%	70	50.1%
34	58.5%	7	44.3%
2	56.0%	8	43.7%
5	52.3%	11	42.8%
6	50.9%	17	42.4%
4	45.6%	14	41.1%
29	34.3%	12	41.0%
95	33.7%	10	38.8%
49	27.8%	13	38.4%
54	26.3%	1	38.0%
12	25.4%	26	35.8%
11	25.1%	3	32.8%
92	24.0%	53	32.6%
27	23.0%	94	31.9%

The Senate tells a similar story. Under the Benchmark Plan, seven districts are contained wholly within Wayne County. Under the Linden Plan, however, these districts are drawn out into the suburbs as well, with eight districts crossing over the Wayne County line into either Oakland or Macomb counties.

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Figures 9, 10

Detroit Area Senate Districts, Benchmark Plan, by BVAP

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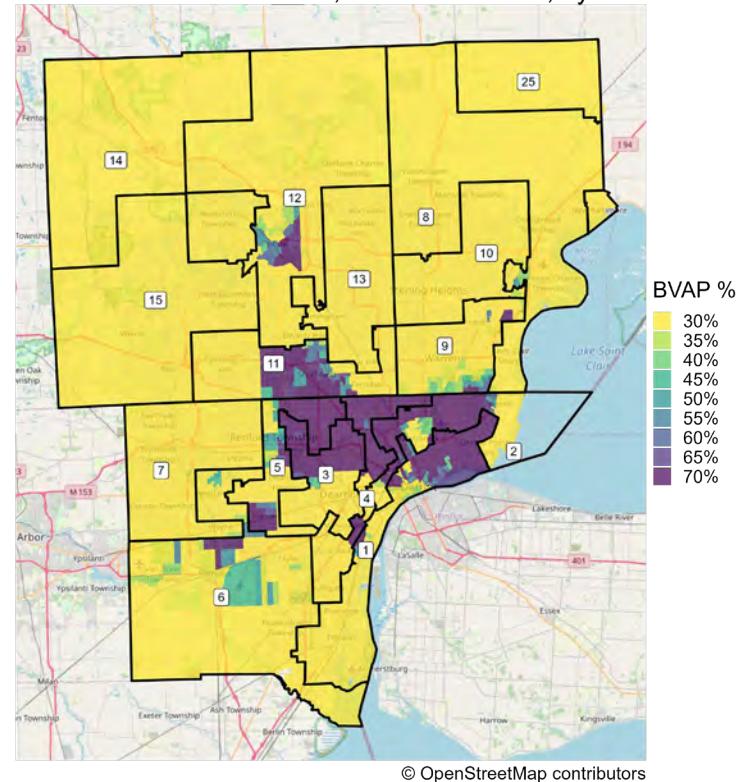
Detroit Area Senate Districts, Linden Plan, by BVAP

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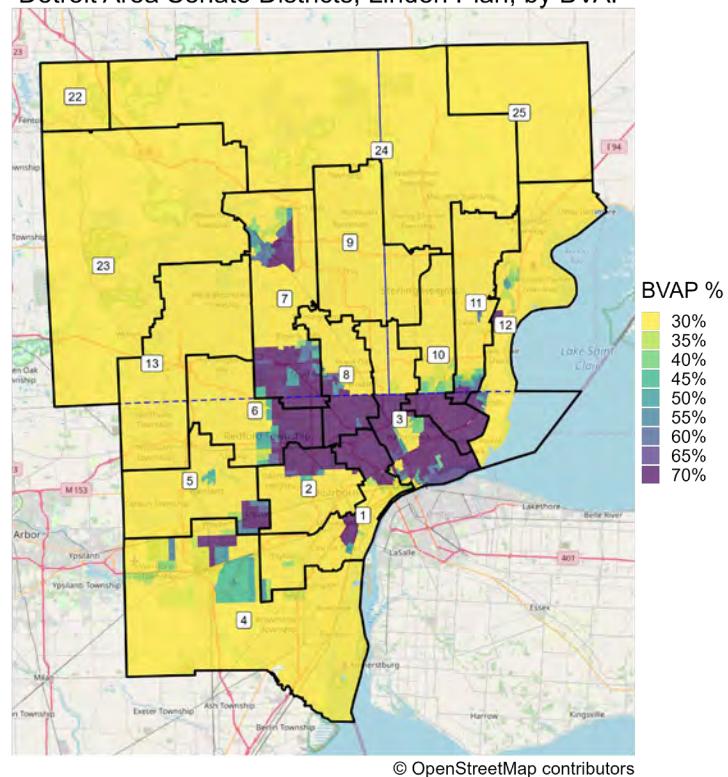
The end result of these changes is the same as with the House. Consistent with the exchanges reported in the Szetela Report, the BVAPs in the districts are decreased substantially. The Benchmark Plan had two districts drawn in excess of 50% BVAP and three more in excess of 45% BVAP. The Linden Plan, however, has just one district drawn in excess of 45% BVAP: A single district at 47.05% BVAP.

Figure 11

21
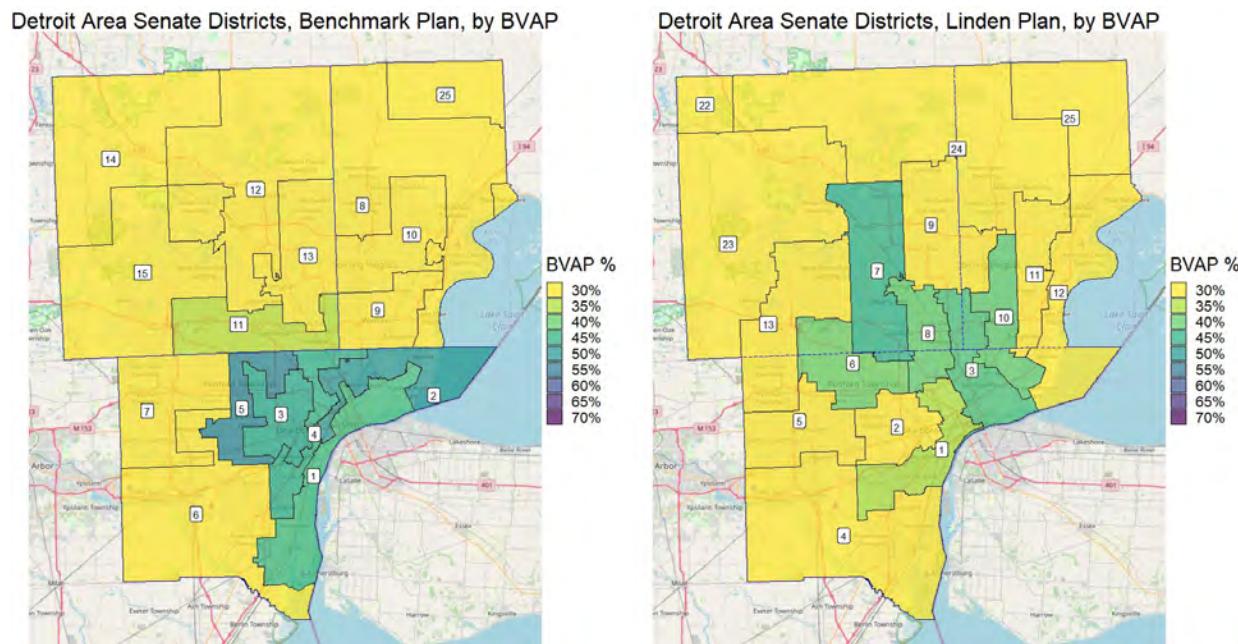
Table 2

| BVAP in 10 Most Heavily Black Michigan Senate Districts | | | |
| Benchmark Plan | | Linden Plan | |
District	BVAP	District	BVAP
5	52.5%	7	44.8%
2	49.3%	3	42.1%
3	46.7%	10	40.4%
4	45.4%	8	40.2%
1	43.1%	6	39.1%
11	34.0%	1	35.0%
27	28.8%	27	27.3%
9	21.7%	2	24.5%
6	19.9%	11	19.2%
12	13.9%	5	18.3%

The result of this is a shift of political power away from Wayne County's Black population and into the suburbs. Under the Benchmark Plan, seven districts contain a majority of their population in Wayne County, five of which are districts with substantial Black populations. Under the Linden Plan, that number falls to six (districts 1-6). Of those six districts, only three are even arguably districts that would likely elect the Black candidate of choice in a polarized primary.

VI.   Analysis of Michigan House of Representatives Hickory Plan

    A. *Gingles* factors

        1. Numerosity/compactness

First, I was asked to draw a map that would include reasonably configured districts in the Wayne County area with Black majority VAPs, while reducing township, county and city splits. I was able to draw 10 such districts, though it is possible that an 11th could be drawn with more aggressive county splitting. For purposes of this map, I only changed districts 1-34 and 46-72. It is possible that a less disruptive map could be drawn by sacrificing compactness or splitting more township, county and city lines. A map of the altered districts follows, along with a summary of the relevant data from them. Individual maps of the districts follow in Appendix C.

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Figure 12

Plaintiffs' House Demonstration Map
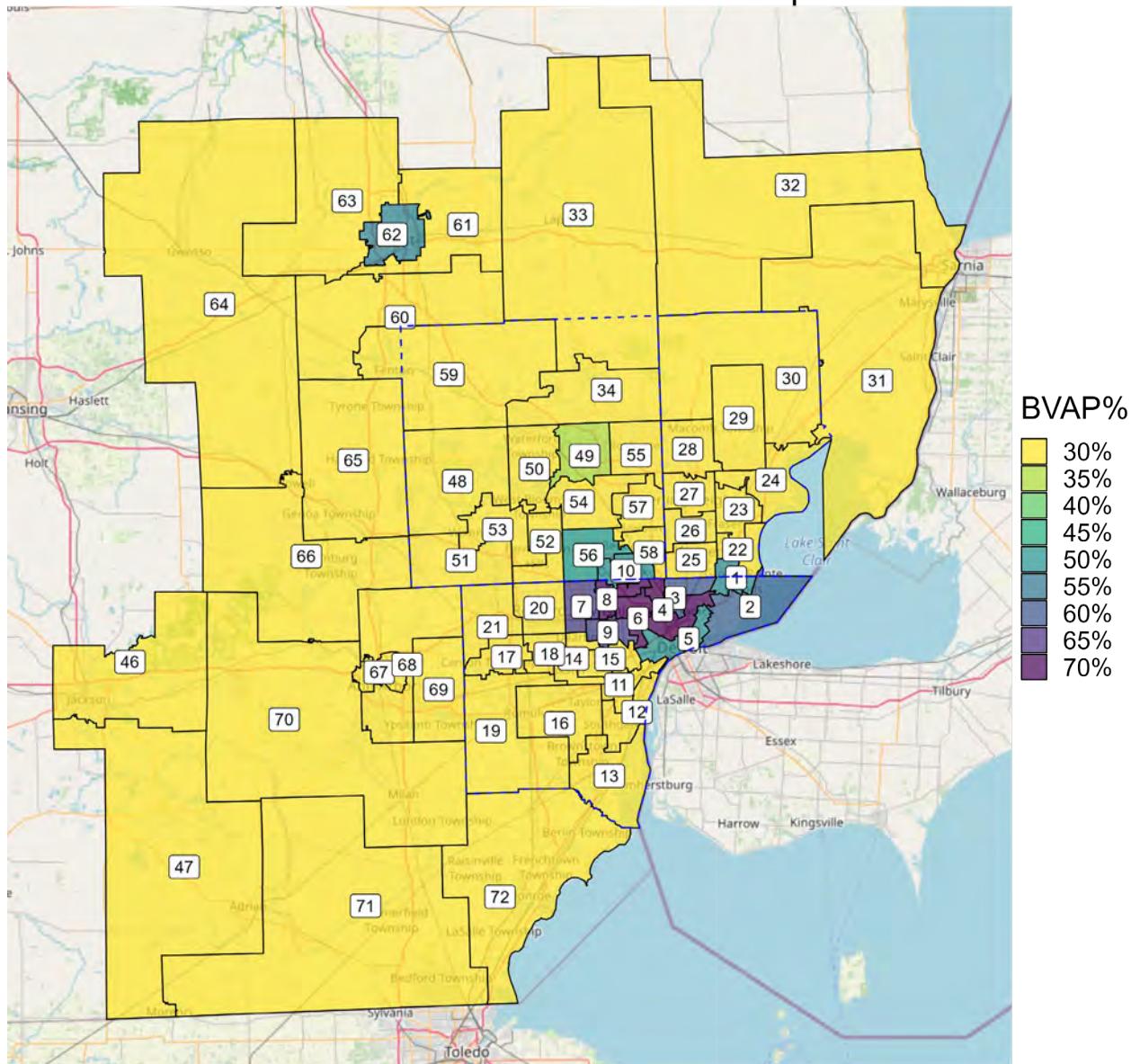
Table 3

Demonstration Plan, With Population Deviation and Racial Statistics

District	Population	Deviation	BVAP	HVAP	AVAP	WVAP
1	90,872	−0.81%	51.64%	1.86%	1.15%	41.81%
2	90,379	−1.35%	58.11%	1.73%	1.13%	35.99%
3	90,112	−1.64%	59.87%	1.13%	14.02%	20.93%
4	90,823	−0.86%	74.95%	1.84%	3.29%	16.03%
5	89,556	−2.24%	50.34%	22.95%	1.71%	21.60%
6	89,981	−1.78%	81.81%	8.19%	0.27%	6.37%
7	91,561	−0.06%	63.14%	2.52%	0.62%	29.65%
8	90,500	−1.21%	92.15%	0.96%	0.18%	3.44%
9	89,561	−2.24%	62.48%	4.43%	0.32%	28.99%
10	91,073	−0.59%	50.13%	2.11%	1.37%	42.48%
11	90,101	−1.65%	13.20%	22.54%	0.75%	58.90%
12	92,101	0.53%	11.63%	8.17%	1.36%	74.39%
13	90,686	−1.01%	5.42%	4.84%	2.71%	82.74%
14	91,169	−0.48%	26.64%	4.01%	1.56%	63.27%
15	89,480	−2.33%	4.86%	3.85%	3.43%	83.82%
16	92,146	0.58%	24.70%	5.94%	2.14%	61.77%
17	92,821	1.32%	12.00%	3.30%	17.24%	63.53%
18	90,252	−1.48%	15.32%	3.85%	2.65%	73.09%
19	93,429	1.98%	20.83%	4.02%	2.85%	67.10%
20	91,203	−0.45%	4.59%	3.04%	3.19%	85.65%
21	89,848	−1.93%	2.70%	2.94%	10.90%	80.39%
22	93,637	2.21%	10.15%	2.24%	1.36%	81.96%
23	93,890	2.49%	14.72%	2.32%	1.89%	76.83%
24	93,474	2.03%	12.24%	2.65%	1.59%	79.48%
25	92,715	1.20%	22.37%	2.48%	9.08%	61.22%

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Demonstration Plan, With Population Deviation and Racial Statistics

District	Population	Deviation	BVAP	HVAP	AVAP	WVAP
26	92,528	1.00%	11.02%	1.81%	9.64%	74.15%
27	93,117	1.64%	4.90%	2.30%	7.31%	82.29%
28	92,854	1.36%	3.48%	2.73%	3.99%	86.44%
29	91,167	−0.49%	4.87%	2.61%	3.45%	85.73%
30	93,861	2.45%	4.61%	3.49%	0.91%	87.12%
31	93,820	2.41%	0.69%	1.88%	0.48%	93.31%
32	92,029	0.46%	3.38%	4.95%	0.60%	87.00%
33	92,785	1.28%	1.34%	2.56%	0.66%	91.19%
34	93,886	2.48%	2.20%	4.41%	3.97%	85.57%
46	91,993	0.42%	12.29%	3.64%	1.13%	78.18%
47	89,412	−2.40%	3.49%	6.61%	0.65%	85.39%
48	92,464	0.93%	1.32%	2.66%	1.40%	90.43%
49	90,740	−0.95%	34.88%	14.25%	5.72%	40.83%
50	93,759	2.34%	5.76%	5.45%	2.83%	81.87%
51	93,406	1.96%	4.03%	3.19%	18.49%	71.03%
52	92,456	0.92%	17.20%	2.46%	11.93%	64.91%
53	93,730	2.31%	12.43%	3.35%	11.88%	68.78%
54	93,319	1.86%	4.81%	2.41%	10.91%	78.87%
55	93,529	2.09%	3.53%	3.95%	13.79%	75.37%
56	91,881	0.29%	48.57%	2.34%	2.86%	42.47%
57	90,059	−1.70%	4.05%	3.07%	19.85%	69.89%
58	93,511	2.07%	5.55%	3.25%	4.10%	82.75%
59	92,096	0.53%	1.06%	2.81%	0.93%	90.99%
60	90,009	−1.75%	7.66%	3.03%	2.32%	82.54%
61	93,087	1.61%	8.04%	3.56%	0.54%	82.83%

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Demonstration Plan, With Population Deviation and Racial Statistics						
District	Population	Deviation	BVAP	HVAP	AVAP	WVAP
62	92,254	0.70%	52.78%	4.22%	0.64%	37.23%
63	92,004	0.43%	13.58%	3.11%	0.79%	78.06%
64	91,781	0.18%	0.38%	2.63%	0.47%	92.58%
65	93,313	1.86%	0.48%	2.30%	0.94%	92.62%
66	90,475	−1.24%	0.75%	2.29%	0.95%	92.05%
67	92,042	0.47%	5.39%	4.95%	17.22%	67.13%
68	91,181	−0.47%	8.99%	5.42%	12.19%	68.61%
69	91,150	−0.50%	26.33%	5.71%	3.86%	57.73%
70	91,383	−0.25%	3.85%	3.74%	3.57%	84.60%
71	93,198	1.73%	0.63%	3.26%	0.55%	91.70%
72	92,559	1.03%	3.20%	3.66%	0.68%	87.69%

The newly drawn districts are roughly as compact as their counterparts in the Hickory Plan's districts (the compactness metrics are described in more detail below). The mean Reock score is 0.425, while the mean Polsby-Popper score is 0.417. This is comparable to the Hickory Plan's mean scores of 0.37 on both metrics. The least compact district under the Hickory Plan is 0.155 for the Reock Score and 0.136 for the Polsby-Popper metric; this is comparable to 0.227 and 0.189 for the Demonstration map.

In addition, the districts split fewer counties than the Hickory Map. The Macomb/Oakland county line remains intact. The Wayne County/Macomb county line is crossed just once, while the Wayne County/Oakland county line is crossed twice. No boundary between counties in the newly drawn district other county line is crossed more than once, with one exception. The St.Clair/Macomb County boundary is traversed three times; two of those traversals are created to keep cities intact. With a few exceptions (the three-way split of New Baltimore), townships and cities are split no more than once, and a whole district is generally contained within a city if possible.

2. Polarized voting

Winning an election is a three-step process: (1) Candidate emergence; (2) the partisan primary; (3) the general election. Candidate emergence is an understudied phenomenon in political science, and it is hard to draw firm conclusions here. There is no realistic question here

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about the general election, as every district that has a BVAP of at least 35% is overwhelmingly Democratic. Since Black voters express a consistently strong preference for Democrats in the aggregate, the Black candidate of choice will almost certainly win the general election. General election data is therefore not relevant to our inquiry.

The question here is wholly one of whether the Black candidate of choice can emerge victorious from the Democratic primary. Answering this question, however, presents a thorny set of complications. First, the data aren't rich with respect to primary challenges. This is especially true in statewide races. Second, we lack confirmatory data on what turnout would look like in Democratic primaries. There are no exit polls against which to check our intuitions, for one thing. More importantly, the MICRC drew the districts with BVAP percentages drawn down into a range where we have little recent experience with Democratic primary elections.

For instance, the Benchmark House Plan contains only one district with a BVAP between 34% and 51%, which makes it difficult to establish a benchmark for where Black candidates of choice begin to encounter difficulties in the primary. The Hickory Plan, by contrast, creates eleven of these districts (and only six districts with a BVAP in excess of 51%). There are only two Senate districts in the Benchmark Senate Plan with a BVAP between 34% and 46.7%; the Linden plan contains six of them (and no districts with a BVAP in excess of 45%).

We are also in an increasingly unstable political alignment. White suburbanites are increasingly finding a home in the Democratic Party, which will change the composition of the Democratic primary electorate, raising the threshold for Black candidates of choice to win a primary election in the presence of racially polarized voting.

Additionally, it is well established that higher socioeconomic status correlates with increased turnout. *See generally* Raymond F. Wolfinger & Steven J. Rosenstone, *Who Votes?* (1980). By extending these districts into the wealthier suburbs, the Commission likely introduced a group of White voters who were more likely to turn out and participate. This, of course, is difficult to measure (since we do not have data at a sufficiently granular level) but it is a risk that analysts much keep in mind.

Despite the data-poor environment, we can nevertheless tease out some conclusions from the evidence. Techniques such as ecological regression and ecological inference have been used in court cases to estimate voting and participation rates. The Handley Report engages in some of

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this analysis, and my findings are largely consistent with the Report's in this respect. Handley Report, at Appendix B.

The problem is that the Report does little to justify the BVAP's contained in the districts. In fact, Black candidates increasingly have trouble winning primary elections in the heavily Black districts that already exist. It seems more likely, based upon the data, that this is a recipe for creating an environment where the House and Senate Black caucuses can hold their meetings in an Uber XL. We see some evidence of this in the 2022 elections. As term limits kick in over the course of the decade, we can expect this to accelerate, especially if suburban Whites continue their migration to the Democratic Party.

2018 Gubernatorial Election

The Handley Report finds that there is one statewide primary race with a racialized element: The 2018 gubernatorial race. She seemingly dismisses this race on the grounds that there were three candidates, and Black voters were not cohesive in their support for any candidate. *See* Report to the Michigan Independent Citizens Redistricting Commission," [Handley Report] at 5-6. While the race may not provide the clear-cut results that we might have gotten from, say, the Clinton/Obama primary election in 2008, that does not mean it is of no use to us.

After all, even though Black voters did not cohere around a single candidate, it is not clear that this is a sensible standard for a multi-candidate primary. Outside of theoretical constructs, a threshold below 50% support for a candidate among one group can sometimes make it difficult-to-impossible for the other group's top choice candidate to win, even without complete coalescence. For example, if, in a 50-50 district Black voters split between Candidate A and B but have a heavy preference for A, while rejecting candidate C, while White voters completely reject candidate A but unify behind candidate C, it becomes a very difficult hill for candidate A to amass the votes, even though preferences might nevertheless be clear. This is likely a question for lawyers to argue about and judges to decide, but we will certainly see examples of this in the pages that follow.

The 2018 gubernatorial race featured three candidates: Shri Thanedar, who is Indian-American, Abdul El-Sayed, who is Egyptian-American, and now-Gov. Gretchen Whitmer, who is White. Dr. Handley finds significant division among White and Black voters in this race in Wayne County, with between 42.5 and 45.6% of Black voters supporting Thanedar and 33.7 and 36.1% of Black voters supporting Whitmer. By contrast, 3.9 to 7.5% of White voters supported Thanedar

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and between 49.2% and 54.5% of White voters supported Whitmer. Handley Report, at 50. In other words, White voters here rejected the preferred Black candidate, while Black voters expressed a clear preference for Thanedar over Whitmer. Using a different variant of ecological inference, I find that 59.3% of Whites voted for Whitmer while just 3.8% voted for Thanedar, while 37.4% of Blacks voted for Whitmer and 41.13% voted for Thanedar. Thus, my technique and that of Dr. Handley return substantially similar results. While the question of whether, in the context of a three-way race, this equates to sufficient polarization is one for the courts, it is nevertheless striking that only 4% of Whites voted for the plurality choice of Black residents of Wayne County, while Black voters voted for a choice other than the solid choice of White voters.

Wayne County is not a monolith, however. White voters in, say, Hamtramck, are different in many ways from White voters in Livonia. This may play out in the Democratic primary, resulting in different estimates in different areas of the city. To test this, I pulled the precincts for each of the Benchmark House districts contained entirely within Wayne County. I then performed an ecological inference analysis for each district. The results are displayed on the following four pages.

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Table 4

Ecological Inference, 2018 Democratic Primary, House Benchmark Plan 1-6

Race	Party	Estimate	Lower 95%	Upper 95%
District 1				
Black	Thanedar	45.65%	39.56%	51.31%
NH White	Thanedar	4.36%	1.65%	8.28%
Black	Whitmer	36.60%	29.71%	43.09%
NH White	Whitmer	60.35%	52.82%	67.66%
District 2				
Black	Thanedar	50.55%	46.78%	54.39%
NH White	Thanedar	2.76%	1.31%	4.82%
Black	Whitmer	32.64%	27.69%	36.93%
NH White	Whitmer	60.35%	54.70%	65.68%
District 3				
Black	Thanedar	40.14%	34.18%	45.57%
NH White	Thanedar	23.83%	11.04%	44.67%
Black	Whitmer	40.75%	34.66%	46.99%
NH White	Whitmer	32.61%	13.80%	56.83%
District 4				
Black	Thanedar	49.51%	44.47%	54.65%
NH White	Thanedar	8.00%	3.65%	13.68%
Black	Whitmer	35.30%	29.57%	40.56%
NH White	Whitmer	12.50%	5.96%	21.73%
District 5				
Black	Thanedar	51.14%	47.55%	54.54%
NH White	Thanedar	18.32%	6.92%	34.71%
Black	Whitmer	34.80%	31.20%	38.08%
NH White	Whitmer	26.29%	11.18%	44.87%
District 6				
Black	Thanedar	41.02%	36.15%	45.93%
NH White	Thanedar	14.86%	6.22%	25.83%
Black	Whitmer	35.40%	29.77%	40.77%
NH White	Whitmer	31.52%	16.29%	47.51%

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Ecological Inference, 2018 Democratic Primary, House Benchmark Plan 7-12

Race	Party	Estimate	Lower 95%	Upper 95%
District 7				
Black	Thanedar	43.39%	39.30%	47.36%
NH White	Thanedar	31.27%	9.30%	63.58%
Black	Whitmer	37.17%	33.60%	40.67%
NH White	Whitmer	35.07%	12.79%	58.08%
District 8				
Black	Thanedar	37.80%	34.71%	41.20%
NH White	Thanedar	31.53%	14.15%	55.25%
Black	Whitmer	40.46%	36.81%	43.71%
NH White	Whitmer	27.28%	10.29%	50.12%
District 9				
Black	Thanedar	50.52%	46.99%	53.99%
NH White	Thanedar	11.43%	5.37%	19.27%
Black	Whitmer	37.93%	34.52%	41.34%
NH White	Whitmer	11.83%	5.13%	21.18%
District 10				
Black	Thanedar	39.04%	35.18%	42.68%
NH White	Thanedar	15.45%	6.73%	28.07%
Black	Whitmer	41.61%	37.10%	45.85%
NH White	Whitmer	54.13%	33.75%	71.92%
District 11				
Black	Thanedar	53.96%	42.99%	64.37%
NH White	Thanedar	6.69%	3.25%	10.94%
Black	Whitmer	29.92%	19.19%	41.68%
NH White	Whitmer	43.68%	29.85%	55.07%
District 12				
Black	Thanedar	32.26%	22.52%	43.54%
NH White	Thanedar	17.64%	7.88%	30.52%
Black	Whitmer	44.36%	30.53%	57.21%
NH White	Whitmer	63.23%	44.92%	78.46%

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Ecological Inference, 2018 Democratic Primary, House Benchmark Plan 13-16, 19-20

Race	Party	Estimate	Lower 95%	Upper 95%
District 13				
Black	Thanedar	22.47%	9.13%	41.37%
NH White	Thanedar	6.40%	3.21%	10.65%
Black	Whitmer	44.71%	18.39%	68.51%
NH White	Whitmer	56.75%	42.44%	68.63%
District 14				
Black	Thanedar	25.33%	9.80%	47.39%
NH White	Thanedar	7.49%	3.53%	12.61%
Black	Whitmer	40.97%	17.11%	66.46%
NH White	Whitmer	65.47%	54.68%	74.60%
District 15				
Black	Thanedar	18.91%	7.31%	36.09%
NH White	Thanedar	2.56%	1.37%	3.97%
Black	Whitmer	41.07%	19.04%	62.46%
NH White	Whitmer	32.14%	27.00%	37.53%
District 16				
Black	Thanedar	35.27%	17.39%	56.92%
NH White	Thanedar	8.57%	4.10%	14.50%
Black	Whitmer	47.53%	25.12%	68.78%
NH White	Whitmer	75.76%	66.14%	84.05%
District 19				
Black	Thanedar	23.38%	8.58%	44.12%
NH White	Thanedar	3.13%	1.56%	5.06%
Black	Whitmer	44.05%	17.89%	69.49%
NH White	Whitmer	76.56%	68.08%	83.83%
District 20				
Black	Thanedar	22.83%	8.84%	42.64%
NH White	Thanedar	3.22%	1.75%	5.14%
Black	Whitmer	32.77%	11.30%	58.15%
NH White	Whitmer	70.97%	64.53%	77.06%

Ecological Inference, 2018 Democratic Primary, House Benchmark Plan 21

Race	Party	Estimate	Lower 95%	Upper 95%
District 21				
Black	Thanedar	24.55%	11.24%	41.37%
NH White	Thanedar	7.64%	3.25%	13.80%
Black	Whitmer	51.36%	28.99%	71.24%
NH White	Whitmer	73.84%	60.10%	84.54%

Looking this over, a few things should stand out. First, White voters and Black voters tend to have very different views of Thanedar, particularly in the "core" Detroit districts. Likewise, Black and White voters tend to have different views of Whitmer. Finally, White support for Whitmer does, in fact, increase in suburban districts relative to urban districts. Thus, a district that stretches out into the suburbs would gain a disproportionate number of voters who would not be likely to favor the Black candidate of choice in a Democratic primary. Black support in the suburbs rises as well, although the number of Black voters in these districts becomes so small that it is impossible to say for certain whether this is the case. This is consistent with Dr. Handley's analysis of Oakland County, which finds virtually no White support for Thanedar there, with the small number of Black voters splitting between Thanedar, Whitmer and El-Sayed. In other words, Black voters in the suburbs seem to not form a natural coalition with Black voters in Detroit proper.

The result of "baconmandering" Wayne County's Black majority districts into the suburbs can be seen in the following two sets of maps, which show levels of support for Thanedar and Whitmer at the precinct level, with the Hickory and Benchmark maps superimposed.
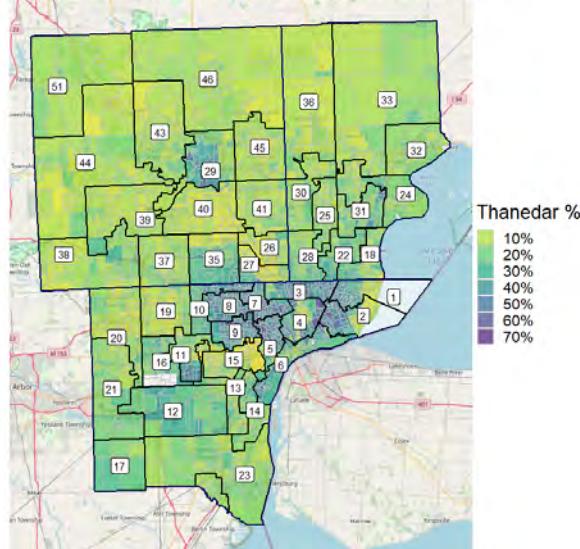
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Figure 13

Figure 14

Thanedar's areas of strength under the Benchmark Plan are consolidated in districts 5, 7, 8 and 9, which he carried under the Benchmark Plan, with significant pockets of strength in Districts 3, 6 and 10. The Hickory Plan, however, cuts this cluster of support among multiple districts, sending them out into areas of the region where Thanedar was weak and Whitmer was strong. In other words, it takes precincts where the Black candidate of choice in Wayne County was strong and combines them with precincts where the Black candidate candidate of choice fared poorly.

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The net result of this is striking. Under the Benchmark Plan, Thanedar carried four districts in the Detroit area, while El-Sayed carried two and Whitmer carried the balance. Under the Hickory Plan, however, Thanedar carried zero districts. His best showing in a district under the Benchmark Plan was 41.5% of the vote, in District 7, followed closely by his 41.2% showing in District 5. Under the Hickory Plan, Thanedar's best performance comes in District 1, where he received just 33.7% of the vote; the next best showing comes in District 4, where he received 31.3% of the vote (and lost overall by 1200 votes to El-Sayed, who carries four districts under the Hickory Map). To put this in perspective, 33.7% of the vote would be Thanedar's sixth-best showing under the Benchmark Plan, while 31.3% would have been just his seventh-best performance.

In short, there is substantial evidence of racially polarized voting in the 2018 gubernatorial primary, particularly in Detroit proper. The Hickory Map, however, rearranges precincts in such a way that the Black candidate of choice loses them all, while the position of the White candidate of choice is improved.

House Primaries

House data are significantly more difficult to come by, particularly regarding the race of challengers for the House. We therefore cannot replicate the tables we find below for the Senate races neatly. At the same time, though, House elections occur more frequently than Senate elections. I was able to match House election data from the Wayne County Clerk's website (https://www.waynecounty.com/elected/clerk/november-6-2018-general-election-results.aspx) to the precinct files and analyze whether Black candidates of choice would be able to emerge from primaries.

There can be little doubt that the Black candidate of choice would win in Benchmark House districts 3, 7 and 8, since those districts had no White population to speak of; this lack of a White population will also make a racially polarized voting analysis difficult to conduct here. I therefore concentrate my analysis on Districts 2 (56% BVAP), 4 (45.5% BVAP), 5 (52.3% BVAP), 6 (50.9% BVAP), 9 (72.2% BVAP), 10 (65.4% BVAP), and 35 (60.5% BVAP).

I note at the outset that Dr. Handley identifies Benchmark District 29 as a district where the Black candidate of choice lost in a polarized primary. Handley Report at 12. That district has a BVAP of 34.3%. The next-closest House district has a BVAP of 47%. Thus, there is no evidence suggesting that the Black candidate of choice can win a polarized primary in a district with a BVAP

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below 47%. In fact, the lowest BVAP for which Dr. Handley produces actual estimates is District 6 in 2020, which is 53% Black and where the Black candidate of choice won by just 3%. In fact, there is just one example of a Black candidates winning a racially polarized primary in the Detroit area in districts with a BVAP below 47% in the districts that the Handley Report examines: The 2018 primary where the Black incumbent – who had initially been chosen by district delegates in a special election -- won in District 11.

Most of the races here are difficult to interpret, because they often feature multiple candidates running. Some races do stand out, however, particularly from the 2018 elections. For example, in the 2nd House District (60.3% BVAP), Joe Tate emerged victorious from a crowded field. Although Black voters did not coalesce behind a single candidate, White voters did. That candidate was Tate, who earned 67% of the White vote, but was the 5th choice of Black voters. White voters, by contrast, gave just 8% of the vote to the Black-preferred candidate.

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Table 5

Ecological Inference, 2nd House District Primary, 2018

Party	Estimate	Lower 95%	Upper 95%
Asian			
Joe Tate	18.60%	6.51%	33.76%
Carla Tinsley-Smith	21.54%	7.05%	37.84%
Latisha Johnson	20.41%	7.17%	37.23%
Carol Banks	13.02%	4.23%	24.76%
Willie Bell	9.68%	3.20%	19.17%
Regina Jones	10.35%	3.46%	18.12%
Kinda Makini Anderson	4.48%	1.54%	8.78%
Black			
Joe Tate	9.40%	7.01%	12.00%
Carla Tinsley-Smith	23.35%	19.82%	26.98%
Latisha Johnson	18.09%	15.11%	21.06%
Carol Banks	21.56%	18.89%	24.24%
Willie Bell	18.07%	15.68%	20.25%
Regina Jones	4.92%	4.02%	5.85%
Kinda Makini Anderson	4.21%	3.19%	5.28%
Hispanic			
Joe Tate	19.92%	6.73%	35.13%
Carla Tinsley-Smith	22.59%	8.08%	37.91%
Latisha Johnson	17.98%	6.51%	32.78%
Carol Banks	17.21%	5.17%	29.89%
Willie Bell	10.38%	3.76%	19.63%
Regina Jones	5.64%	1.99%	11.27%
Kinda Makini Anderson	5.20%	1.94%	9.90%
NH White			
Joe Tate	68.94%	63.03%	74.68%
Carla Tinsley-Smith	7.73%	4.05%	12.56%
Latisha Johnson	11.42%	6.59%	16.71%
Carol Banks	4.17%	1.96%	7.03%
Willie Bell	2.94%	1.32%	5.16%
Regina Jones	2.78%	1.64%	4.14%
Kinda Makini Anderson	1.51%	0.79%	2.43%

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The 2018 primary in the 5th District (54.1% BVAP) is another race where it is difficult to say whether the voters were polarized.   Black voters generally backed Cynthia Johnson, while White voters favored Rita Ross. But this is hardly a solid example of a race where we would be confident that the Black candidate of choice would emerge successfully from a district with a BVAP in the low 40s; Johnson won by just nine votes in this heavily Black district.

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Table 6

Ecological Inference, 5th House District Primary, 2018			
Party	Estimate	Lower 95%	Upper 95%
Asian			
Cynthia Johnson	19.25%	6.10%	36.35%
Rita Ross	19.29%	5.44%	41.74%
Mark Payne	17.42%	5.05%	34.10%
Cliff Woodwards	9.62%	3.09%	19.54%
Mark Murphy	13.75%	3.79%	27.59%
Jermaine Tobey	14.73%	4.53%	27.30%
Black			
Cynthia Johnson	40.92%	38.06%	43.89%
Rita Ross	37.59%	34.47%	40.56%
Mark Payne	10.63%	8.13%	12.87%
Cliff Woodwards	5.46%	4.21%	6.73%
Mark Murphy	3.87%	2.56%	5.16%
Jermaine Tobey	0.94%	0.51%	1.47%
Hispanic			
Cynthia Johnson	18.93%	8.13%	32.04%
Rita Ross	31.26%	14.21%	49.21%
Mark Payne	17.82%	8.53%	28.96%
Cliff Woodwards	8.19%	3.65%	14.39%
Mark Murphy	7.73%	3.36%	14.17%
Jermaine Tobey	11.40%	4.98%	19.94%
NH White			
Cynthia Johnson	25.81%	10.82%	43.65%
Rita Ross	34.38%	13.88%	54.00%
Mark Payne	10.16%	3.69%	21.10%
Cliff Woodwards	6.14%	2.55%	11.64%
Mark Murphy	7.90%	3.53%	14.39%
Jermaine Tobey	11.19%	4.95%	19.28%

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Most of the other races are difficult to interpret. Karen Whitsett emerged victorious from a polarized race in 2020, but it was not a resounding victory; she won with 45% of the vote over divided opposition in this district.

In addition to replicating the analyses in the 2018 and 2020 races that Dr. Handley references in her report, I was also able to find a shapefile of precincts for the 2014, 2016 and 2022. The results are summarized in the following tables. These tables provide the BVAP for the district, the identification and vote share for the Black-preferred and White-preferred candidates, as well as the margin between the Black-preferred candidate and the White-preferred candidate.

Rows where Black and White voters agreed on their candidate of choice are shaded white; rows where they disagreed but the Black candidate of choice prevailed are shaded green, while rows where they disagreed but the White candidate of choice prevailed are shaded red.

Table 7

District	BVAP	Black 1st Choice	Black 1st Choice %	Black 2nd Choice	Black 2nd Choice %	White 1st Choice	White 1st Choice %	White 2nd Choice	White 2nd Choice %	Black Cand Margin%
2014 House EI Summary										
Prior House 7	92.00%	LaTanya Garrett	41.46%	Nicole Stallworth	37.78%	James Cole	21.39%	Nicole Stallworth	18.71%	19.38%
Prior House 8	90.10%	Sherry Gay-Dagnogo	53.85%	Stacy Pugh	27.59%	Stacy Pugh	29.89%	Sherry Gay-Dagnogo	29.56%	17.30%
Prior House 3	88.60%	Wendell Byrd	31.25%	Clarence Gayles	20.61%	Clarence Gayles	30.78%	Carron Pinkins	18.73%	3.30%
Prior House 9	72.20%	Harvey Santana*	83.44%	Hussein Berry	16.56%	Hussein Berry	60.19%	Harvey Santana*	39.81%	50.60%
Prior House 10	65.40%	Leslie Love	45.64%	Roy McCalister, Jr.	34.67%	Jay Johnson	67.86%	Leslie Love	–	12.70%
Prior House 1	63.20%	Brian Banks*	70.73%	Rebecca Thompson	19.50%	Rebecca Thompson	52.88%	Michael Koester	24.81%	6.70%
Prior House 2	56.00%	Alberta Talabi*	92.89%	Andrew Casazza	4.08%	Andrew Casazza	78.55%	Alberta Talabi*	16.18%	40.00%
Prior House 5	52.30%	Fred Durhal*	55.30%	Cynthia Johnson	34.90%	Fred Durhal*	30.76%	Cynthia Johnson	26.14%	–
Prior House 6	50.90%	Stephanie Chang	50.72%	Tyrone Carter	40.53%	Stephanie Chang	54.03%	Tyrone Carter	22.08%	–
Prior House 4	45.60%	Rose Mary Robinson*	93.53%	Mohammed Hassan	6.47%	Rose Mary Robinson*	72.57%	Mohammed Hassan	27.43%	–

In 2014, Black and White voters agreed on the candidates of choice in districts 4-6, which also happened to be the districts with the lowest BVAPs. Two things stand out. First, these districts are often heavily polarized. For example, in House District 2, Alberta Tinsley Talabi received

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92.89% of the vote from Black voters, but just 16.18% from White voters. Second, even in overwhelmingly Black districts, these candidates frequently have close calls. Wendell Byrd had a close call in an 89% Black District, while Brian Banks won by just 7 points in a 63% BVAP district; White voters gave him just 15% of their vote.

The 2016 elections tell a similar story.

Table 8

2016 House EI Summary

District	BVAP	Black 1st Choice	Black 1st Choice %	Black 2nd Choice	Black 2nd Choice %	White 1st Choice	White 1st Choice %	White 2nd Choice	White 2nd Choice %	Black Cand Margin%
Prior House 7	92.00%	LaTanya Garrett*	93.16%	Bernard Thompson	6.84%	LaTanya Garrett*	61.00%	Bernard Thompson	39.00%	–
Prior House 8	90.10%	Unopposed	–	–	–	–	–	–	–	–
Prior House 3	88.60%	Wendell Byrd*	53.42%	Al Williams	17.99%	Wendell Byrd	33.97%	Al Williams	26.30%	–
Prior House 9	72.20%	Sylvia Santana	54.09%	Gary Pollard	33.27%	Gary Pollard	39.01%	Sylvia Santana	15.20%	18.84%
Prior House 10	65.40%	Leslie Love*	84.03%	Mary Cavanagh	11.75%	Leslie Love*	46.71%	Mary Cavanagh	34.08%	–
Prior House 1	63.20%	Brian R. Banks*	73.75%	Washington Youson	9.88%	Pamela Sossi	80.77%	Brian R. Banks*	9.69%	9.22%
Prior House 2	56.00%	Bettie Cook Scott	42.22%	Carla Tinsley-Smith	31.90%	Jeremy Henner	59.13%	Joe Tate	18.40%	6.27%
Prior House 5	52.30%	Fred Durhal*	59.70%	Cynthia Johnson	40.30%	Cynthia Johnson	53.30%	Fred Durhal	46.70%	14.82%
Prior House 6	50.90%	Stephanie Chang	80.36%	Dennis Black	6.50%	Stephanie Chang	53.81%	Dennis Black	11.29%	–
Prior House 4	45.60%	Rose Mary Robinson*	64.56%	Quincy Jones	23.09%	Rose Mary Robinson*	42.51%	Quincy Jones	18.76%	–

Here, we see a little less polarization, but still see the Black candidate of choice pulling through, sometimes narrowly, in majority-Black districts. Overall, there is little in the margin of victory for Black-preferred candidates that might suggest non-incumbent Black candidates would be successful in races with BVAP shares in the low 40s.

Finally, we can evaluate the results of the Hickory map. Four Black candidates of choice were defeated. Perhaps most strikingly, in the *open* seats, Black candidates of choice lost four of the six races, including a race in a Black-majority district. Hickory District 17 was unopposed; Rep. Laurie Pohutsky, who previously represented an 85% White district in the suburbs, did not draw a challenge.

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Table 9

2022 House EI Summary

District	BVAP	Black 1st Choice	Black 1st Choice %	Black 2nd Choice	Black 2nd Choice %	White 1st Choice	White 1st Choice %	White 2nd Choice	White 2nd Choice %	Black Cand Margin%
Hickory 4	55.60%	Karen Whitsett*	66.00%	Lori Turner	32.30%	Gus Tarraf	79.85%	Karen Whitsett	13.71%	37.30%
Hickory 5	55.30%	Reggie Davis	62.00%	Steele Hughes	15.79%	Natalie Price	63.09%	Michelle Wooddell	22.13%	-8.70%
Hickory 6	54.90%	Regina Weiss*	46.00%	Danielle Hall	25.64%	Regina Weiss*	91.01%	Myya Jones	3.82%	–
Hickory 16	54.90%	Stephanie Young*	94.00%	Ishmail Terry	5.74%	Stephanie Young*	92.56%	Ishmail Terry	7.44%	–
Hickory 18	52.20%	Jason Hoskins	54.00%	Caprice Jackson	45.92%	Jason Hoskins	65.59%	Caprice Jackson	34.41%	–
Hickory 9	51.70%	Abraham Aiyash*	49.00%	Darnell Gardner	29.45%	Abraham Aiyash*	71.50%	Darnell Gardner	7.68%	–
Hickory 7	50.10%	Helena Scott*	90.00%	Melanie Macey	7.55%	Melanie Macey	62.35%	Helena Scott*	34.22%	13.10%
Hickory 8	43.70%	Ernest Little	35.00%	Durrel Douglas	33.62%	Mike McFall	53.37%	Dave Soltis	30.45%	-20.60%
Hickory 11	42.80%	Regina Williams	25.00%	Ricardo White	22.01%	Veronia Paiz	31.91%	Alex Manwell	20.81%	-4.40%
Hickory 17	42.40%	Unopposed	–	–	–	–	–	–	–	–
Hickory 14	41.10%	Donavan McKinney	85.00%	Kristina Lodovisi	9.90%	Donavan McKinney	42.99%	Kristina Lodovisi	32.91%	–
Hickory 12	41.00%	Kimberly Edwards	84.00%	Richard Steenland*	15.84%	Richard Steenland*	62.78%	Kimberly Edwards	37.22%	3.80%
Hickory 10	38.80%	Joe Tate*	90.00%	Toni Mua	9.90%	Joe Tate*	93.48%	Toni Mua	6.52%	–
Hickory 13	38.40%	Lori Stone*	50.00%	Myles Miller	49.78%	Lori Stone*	86.33%	Myles Miller	13.67%	–
Hickory 1	38.00%	Tyrone Carter*	62.00%	Jermaine Tobey	11.85%	Tyrone Carter*	61.66%	Jermaine Tobey	38.34%	–
Hickory 26	35.80%	Steven Chisholm	54.00%	Allen Wilson	29.77%	Dylan Wegela	79.18%	Allen Wilson	8.57%	-15.10%

Four Black candidates of choice fell, often by substantial margins. Black incumbents were largely successful, but they also generally failed to attract serious challenges. According to the nonpartisan Transparency USA, only Melanie Macey and Caprice Jackson raised substantial funds; most raised under $5,000. Even then, Kimberly Edwards barely won, while Helena Scott had a surprisingly poor showing, despite overwhelming support for Black voters.

In other words, twelve Black candidates of choice won seats in this election. But two of those wins were fairly precarious, and ten of those wins feature incumbents. In open districts,

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Black candidates of choice fared worse, boding poorly for the remainder of the decade, especially if better-financed candidates later appear.

B. Racial Predominance

I was also asked to examine whether race predominated in the drawing of the districts in Michigan. Part of this inquiry, to my understanding, is whether traditional redistricting principles are subverted to the goal of drawing districts on the basis of race. This is a demanding inquiry. Yet, it is clear that in the Detroit area, multiple districts are drawn with race as the predominant motive.

1. Background

For purposes of this inquiry, I've examined the districts in Wayne County, and in the two major suburban counties: Macomb and Oakland. As the following figures show, under the Benchmark plan, the districts in this area rarely crossed county lines. Instead, they were often reasonably compact districts that conformed to political boundaries and rarely included appendages and arms.

Figure 15

Benchmark Plan, Detroit Area Districts by Race

© OpenStreetMap contributors
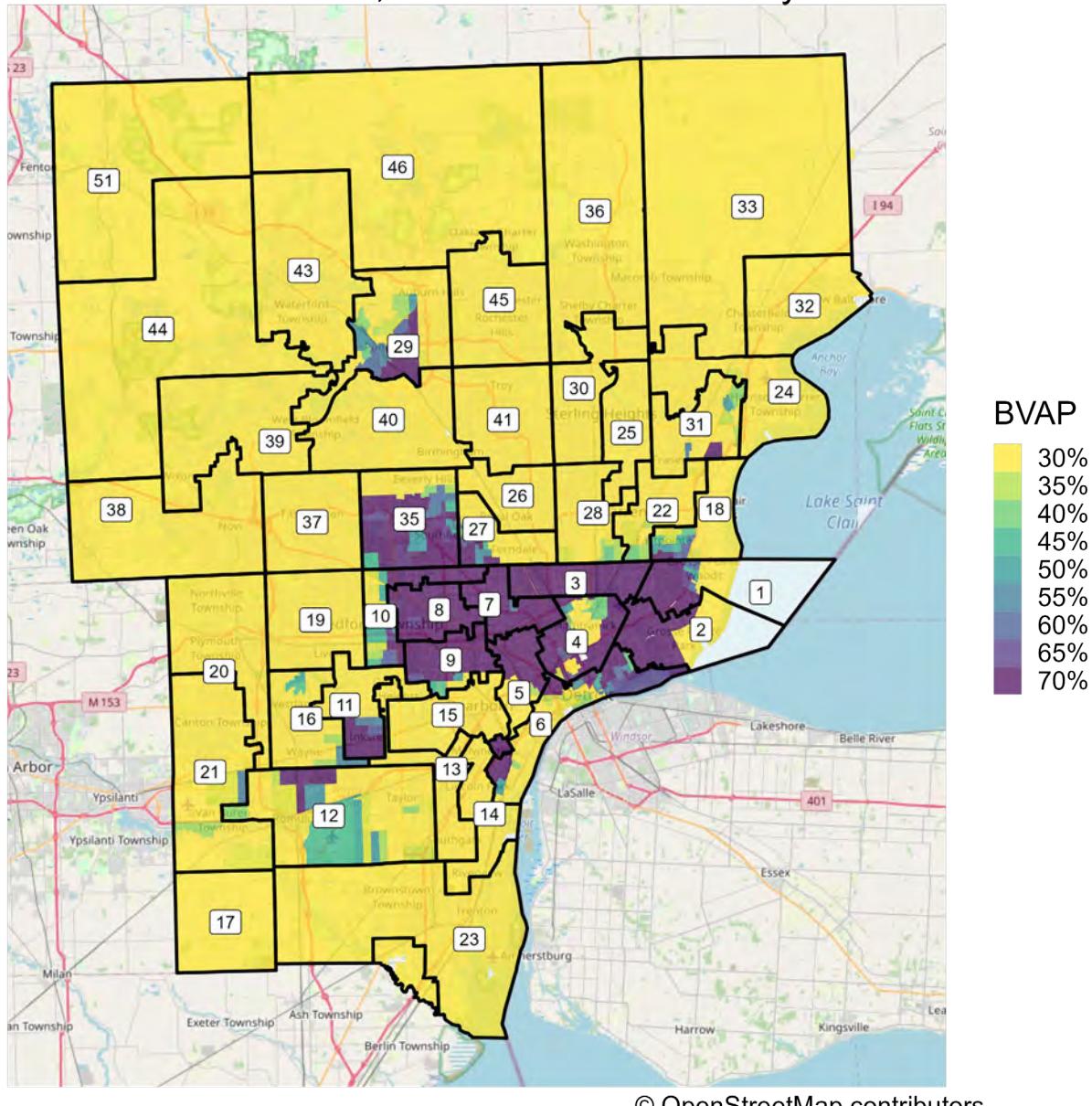
The Detroit area districts under the Hickory Plan, by contrast, are nothing of the sort.

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Figure 16

Hickory Plan, Detroit Area Districts by Race

© OpenStreetMap contributors
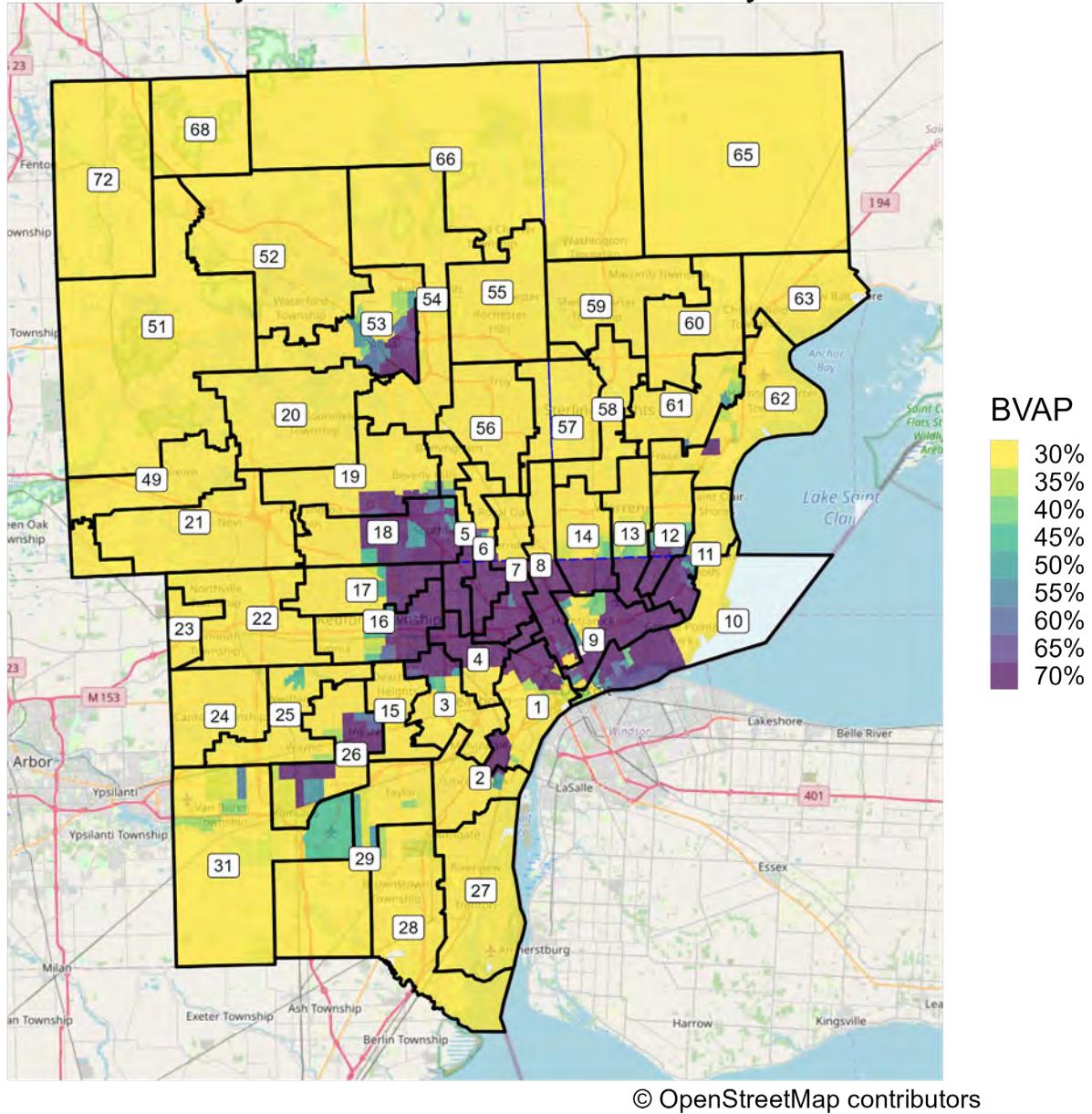
As one can readily see, these districts repeatedly cross the county boundaries. Districts 10, 11, 12, 13 and 14 cross the Wayne-Macomb boundary, districts 5, 6, 7 and 8 cross the Wayne-Oakland boundary, while districts 57 and 66 cross the Oakland-Macomb boundary. This compares with the Benchmark Plan, where none of these boundaries are ever breached.

Moreover, they cross the Wayne County boundary in very particular ways. All of these districts combine heavily Black areas of Detroit with White areas of the two northern counties. The result of this is to keep the Black VAP low, playing dice (as seen above) with the ability of

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Black voters to succeed in their ability to elect their candidates of choice. The same is true south of Detroit, where districts 1 (and by extension, 2) and 26 adopt bizarre shapes to achieve their goal.

We can see this better by focusing on the districts challenged in Plaintiffs' First Amended Complaint in particular. We also examine districts 5, 6, 16, 17, and 18. Although not directly challenged, they provide additional (at times, more extreme) examples of the overall strategy of the map drawers: to take portions of the Black community and then stretch the districts out into the suburbs.

Figure 17

Hickory Plan, Key Districts by Race

© OpenStreetMap contributors
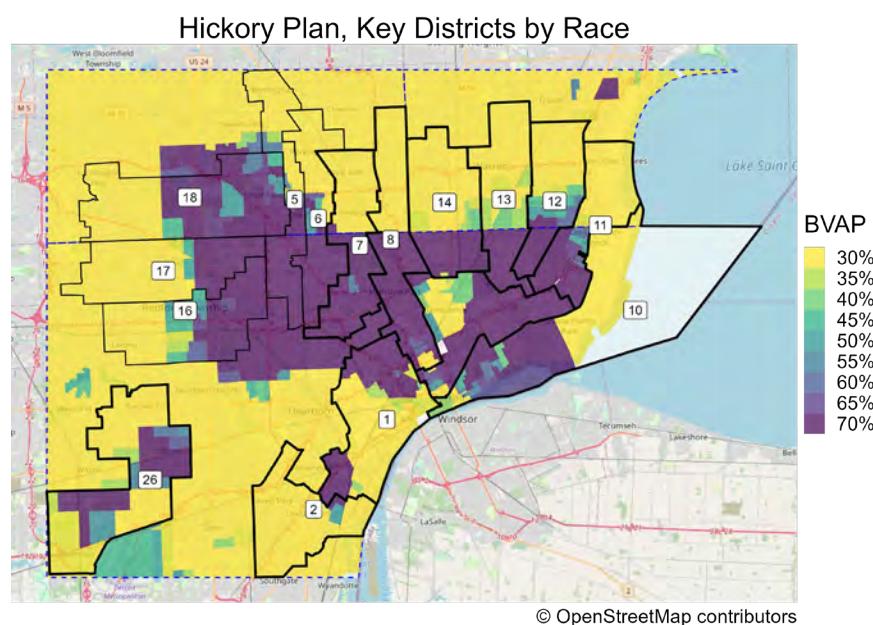
District 1 crosses over a heavily Hispanic area of South Detroit to connect with heavily African-American precincts in southern Detroit and River Rouge, leaving District 2 as a largely bleached district. District 26 takes on a strange hook shape, connecting Black precincts in Inkster and Romulus with heavily White precincts in Garden City. The strategy, however, is most readily seen in the string of districts numbered between 5 and 14. With the exception of 9 (which is a byproduct of the bizarre shapes), these districts take the shape of bacon strips of varying thickness.

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Such "baconmandering" is a basic tool in the gerrymandering toolbox, where concentrations of voters are split up among multiple different districts.

Perhaps the clearest demonstration of this can be seen with the following dot density maps, which overlay the Hickory lines over the dots in the respective districts, as well as in some of the surrounding areas.

Figure 18

Population of Macomb/Oakland/Wayne Counties, MI, by Hickory Districts
1 Orange 'X' = 50 White Residents of Voting Age, 1 Blue Dot = 50 Black Residents of Voting Age /n
1 Teal Dot = 50 Hispanic Residents of Voting Age, 1 Black Dot = 50 Asian Residents of Voting Age
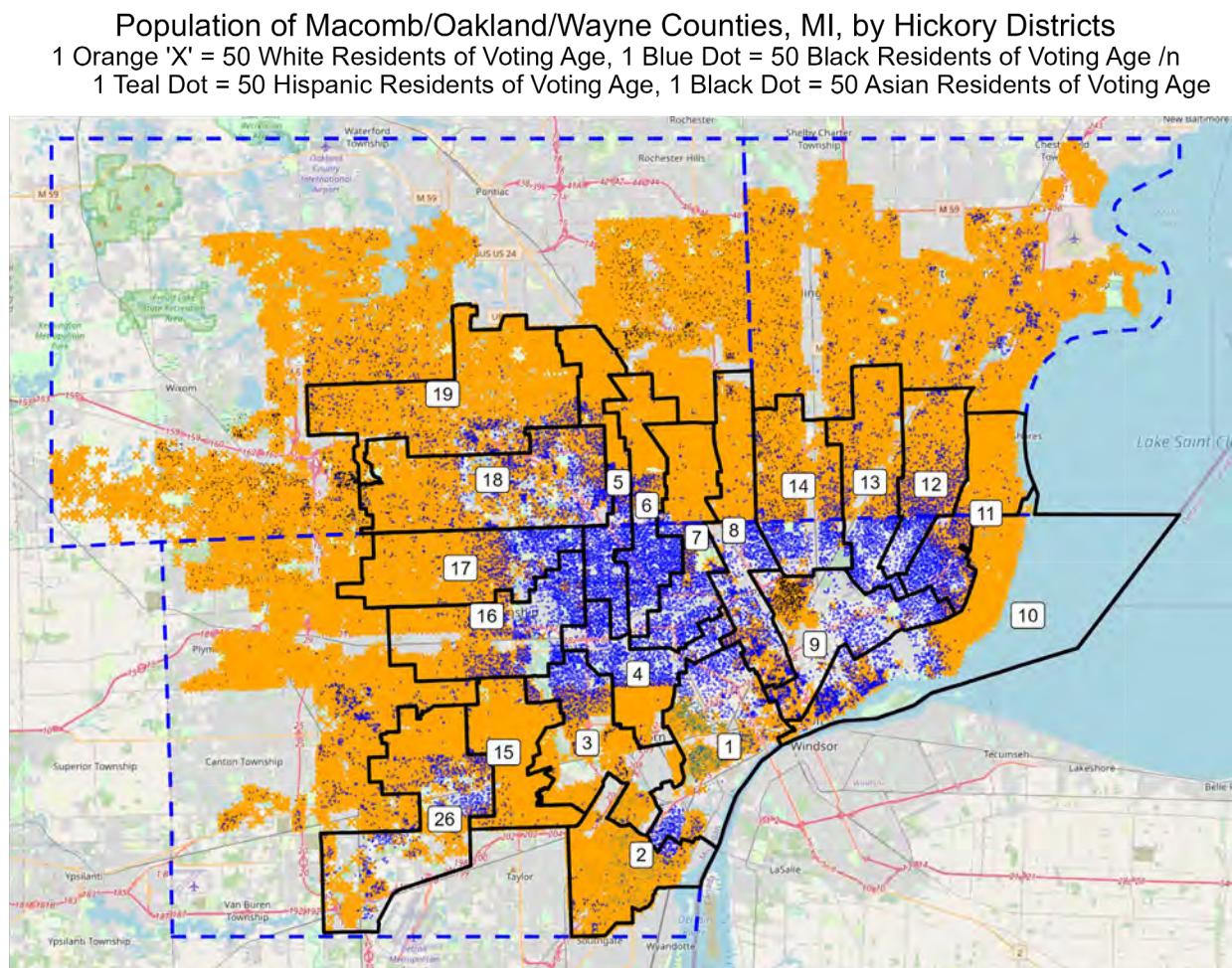
All of these districts begin in Black areas, which are sliced up among them, carefully avoiding any substantial concentration of Black voters. They are then stretched out into the

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surrounding counties or towns, reaching into heavily White areas. Even within counties, the racial intent is clear. Districts 11, 13 and 14 all stop abruptly before reaching the more diverse center of downtown Detroit. District 10 snakes around through heavily Black areas of eastern Detroit, combining those districts with the Grosse Pointes. District 7 reaches deeply into Detroit, but then carefully avoids high BVAP precincts in Oakland County, while District 8, which takes in a larger portion of Detroit, extends itself in a thin strip to reach higher-white-density areas of Oakland. District 5 is perhaps the most egregious district on the map, demonstrating the MICRC's determination to reduce the BVAP of these districts at the expense of any other legitimate redistricting consideration.

It is true that the MICRC was charged with creating politically fair maps, and race and politics do correlate. Here, however, these features do not exist to improve the partisan performance of the map, as almost all of these precincts are at least Democratic leaning. Instead, they divvy up the voters by race, combining Black precincts in Detroit with White precincts in the suburbs.

Figure 19

Hickory Plan, Key Districts by Presidential Vote, 2020

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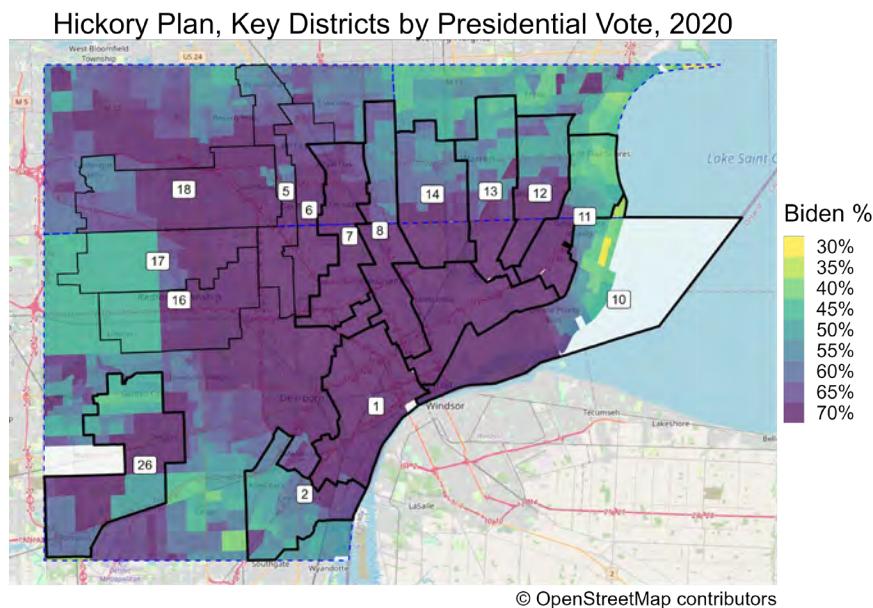
That the overwhelming consideration in forming these bizarrely shaped districts is race is all the more apparent when we consider the traditional redistricting criteria and see how they were subverted to race-based districting.

2. Compactness

As described above, under the Benchmark Plan the districts in this area are typically compact – at times they are almost perfect squares. The Hickory Plan is different, with long, stretched out districts. It is also apparent that the lack of compactness is associated with race.

We can examine the districts in the Detroit area under both the Benchmark Plan and the Hickory Plan using a variety of metrics for assessing compactness. Compactness doesn't have an agreed-upon definition in the political science literature. Instead, it is multidimensional, with different attempts to define the concept evoking different aspects. The first, and perhaps most widespread, definition of compactness is the Reock Score. The Reock score looks at the ratio of the area of the district to the area of the smallest circle that would enclose the district (also known as a "minimum bounding circle"). Ernest Reock, "A Note: Measuring Compactness as a Requirement of Legislative Apportionment," 1 *Midwest Jrnl. Pol. Sci.* 70 (1961). This ratio will fall as districts become distorted lengthwise; it therefore punishes long, bacon-like districts. A "perfect" Reock score is 1, while a zero is a theoretical perfectly non-compact district.

To make this less abstract, an illustration of the Hickory Plan's District 5, with its minimum bounding circle, is provided beside a district with a much higher Reock score. As you can see, the latter district fills its minimum bounding circle to a much greater extent than Hickory Plan District Five.

Fig. 20

Hickory District 5, Reock = 0.172   Hickory District 43, Reock = 0.5464

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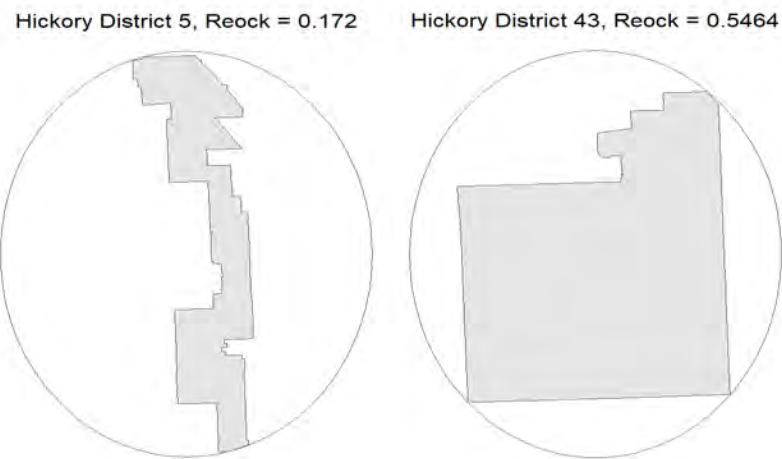
We can get a sense of how the commission subverted compactness to the goal of drawing districts with particular racial characteristics in mind with the following sets of charts. While these charts may seem a bit confusing at first, they are ultimately illuminating. These charts take the Benchmark and Hickory districts that are wholly within Macomb, Oakland, and Wayne counties, and break them apart. The charts display one district in each pane. The districts are ordered by compactness, such that the upper left district is the least compact district under the given metric, while the lower right district is the most compact district (the data should be read in rows, not columns). The title of each pane is the compactness score for that district.

In short, if the darker districts are clustered at the top of the chart, the map generally makes high BVAP districts less compact. If they are spread throughout the chart, the map is indifferent to the BVAP.

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Figure 21

Detroit Area Benchmark House Districts, by BVAP and Compactness
Titles = Reock Scores,
Labels = District Numbers

BVAP %

75%
50%
25%
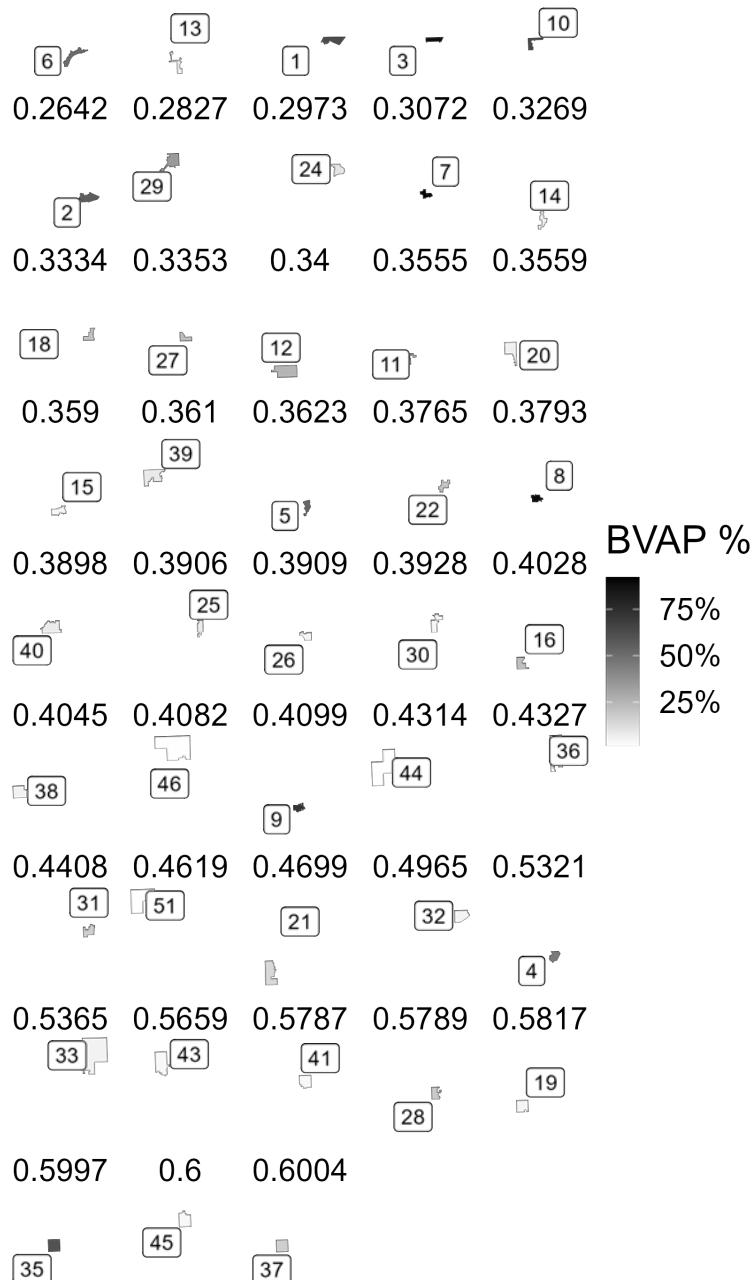
Figure 22

Detroit Area Hickory House Districts, by BVAP and Compactness
Titles = Reock Scores,
Labels = District Numbers

0.172	0.1729	0.204	0.2137	0.217
5	10	25	17	8

0.2443	0.2825	0.2835	0.2867	0.2914
6	9	21	53	19

0.295	0.2964	0.2985	0.3169	0.3176
		66		16

0.3209	0.3217	0.3242	0.3268	0.338
4	18	20	7	61

BVAP %

0.3384	0.3428	0.3562	0.3581	0.376
22	11	59	62	54
	58		13	
12				

50%
40%
30%
20%
10%

0.4069	0.4265	0.4332	0.4371	0.4426
26	2	15	60	3

0.4601	0.4634	0.4828	0.5114	0.5356
52	57	1	24	14

0.5464	0.5475	0.5645
55	51	56

52
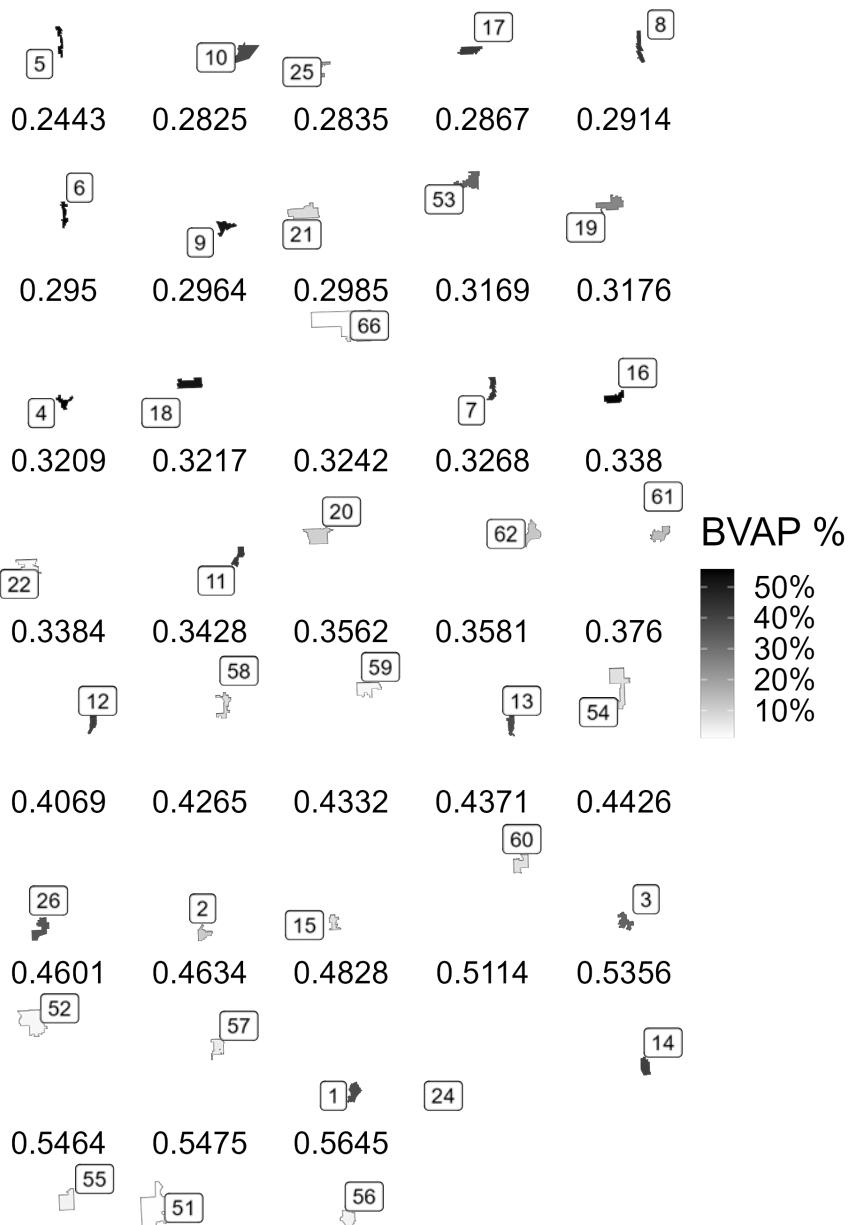
This is exactly what we see here. In both the Benchmark and Hickory plans, the less compact districts seem concentrated at the top of the chart, but it is much more pronounced in the Hickory plan, where almost all of the top three rows have districts that are among the highest BVAP districts under that plan.

The second metric we examine is Polsby-Popper. While the Reock score punishes districts that are stretched and distended, the Polsby-Popper score punishes districts that have "arms" and "inlets." It does this by comparing the ratio of the area of the district to the area of a circle that has the same perimeter as the district. Daniel D. Polsby & Robert D. Popper, "The Third Criterion: Compactness as a Procedural Safeguard Against Partisan Gerrymandering," 9 *Yale L. & Pol. Rev.* 301 (1991).

To understand the motivation behind Polsby-Popper, sketch out a circle. Then erase some of the edge of the circle and draw a narrow tendril snaking into the district toward the center. The Reock score would not change much since the size of the minimum bounding circle remains the same and the area of the district does not change much. The Polsby-Popper score, however, would fall significantly since the perimeter of the district would be greatly increased. A "perfect" Polsby-Popper score is 1, while a theoretical perfectly non-compact district would score a zero. Note that, in a state like Michigan with jagged coastlines and inlets, the Polsby-Popper scores will naturally be lower than in other similarly situated states.

To make this less abstract, I have once again provided an illustration of the Hickory Plan's District 5, with a circle whose circumference is equal to the perimeter of District 5. I have provided a similar illustration for District 35 under the previous map. As you can see, the area of the circle for Benchmark District 35 is much closer to that of the district than is true of Hickory District 5.

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Figure 23

Hickory District 5, Polsby-Popper = 0.1527
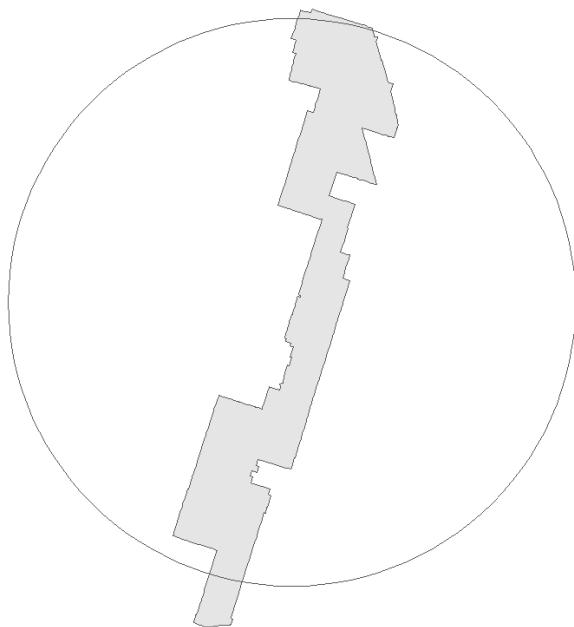
Benchmark District 35, Polsby-Popper = 0.7857
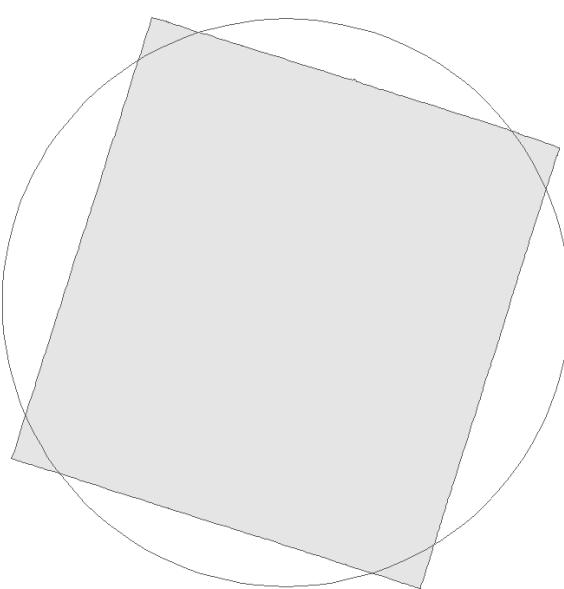
Returning to our plots from earlier, we can once again see that in the Hickory Map, the dark shaded districts are skewed toward the top of the plot, while under the Benchmark Plan they are spread more evenly across the map.

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Figure 24

Detroit Area Benchmark House Districts, by BVAP and Compactness

Titles = Polsby-Popper Scores,
Labels = District Numbers

55
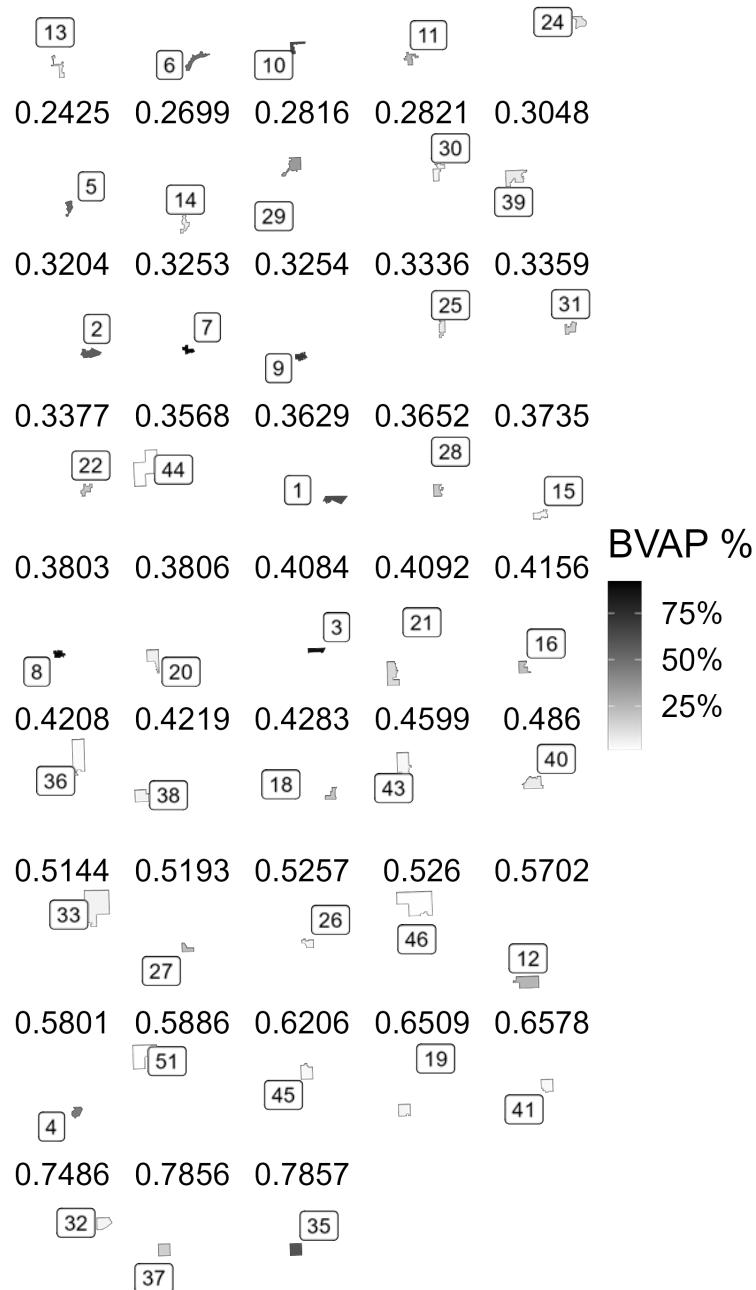
Figure 25

Detroit Area Hickory House Districts, by BVAP and Compactness

Titles = Polsby-Popper Scores,
Labels = District Numbers
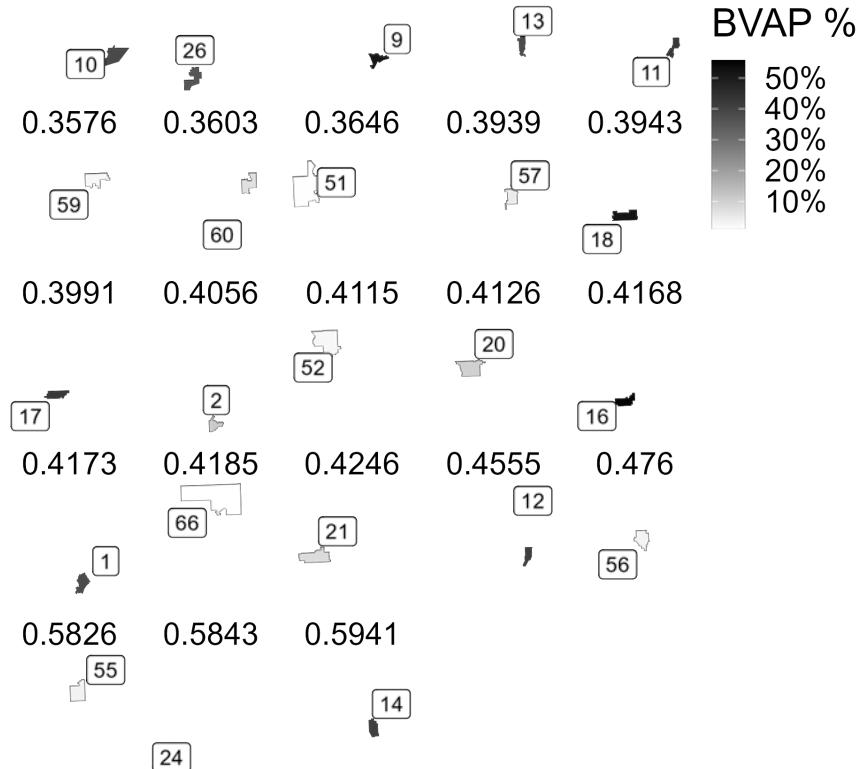
The final metric we examine is a newer one, developed by political scientists Aaron Kaufman, Gary King and Maya Komisarchik. Rather than directly developing a mathematical

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formula for measuring compactness, they instead interviewed judges, redistricting experts, public officials, lawyers and ordinary citizens by showing them various districts, in order to get a sense of what they would consider "valid." Kaufman, Aaron, et al., "How to Measure Legislative Compactness if You Only Know it When You See it," 65 *Am. Jrnl. Pol. Sci.* 533, 534 (2021). They find that the groups effectively define compactness in the same way, which they summarize as "squarish, with minimal arms, pockets, islands, or jagged edges." *Id.* at 544. They turn these into what they (unfortunately) call "I Know it When I See It" scores, or what I will call (after consulting with the authors), MAGiK scores (for Maya K., Aaron K. and Gary K.). These scores run from 1 to 100. Because they are whole numbers, there can be multiple districts with identical MAGiK scores:

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Figure 26:

Detroit Area Benchmark House Districts, by BVAP and Compactness

Titles = MAGiK Scores,
Labels = District Numbers

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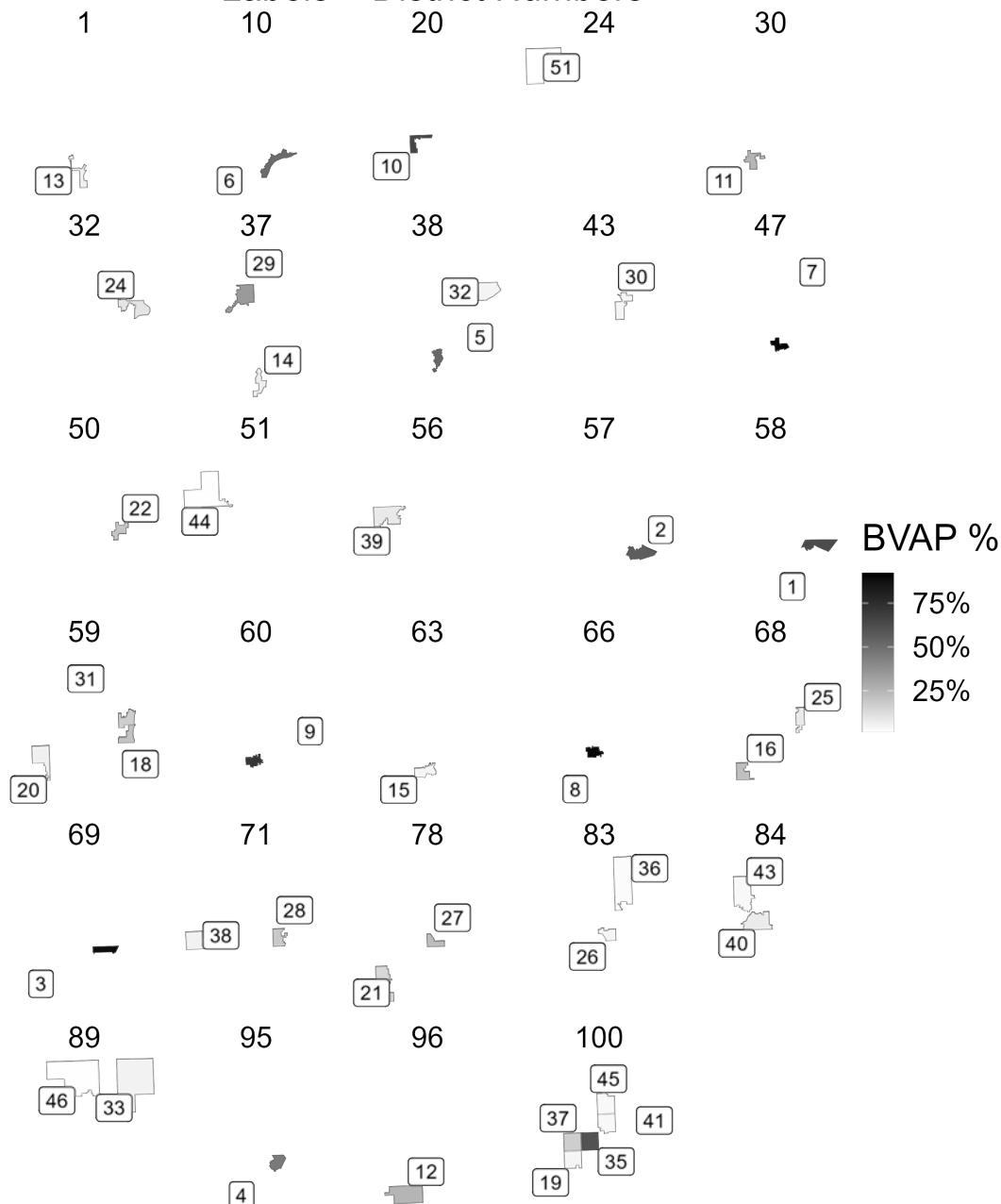
Figure 27

Detroit Area Hickory House Districts, by BVAP and Compactness

Titles = MAGiK Scores,
Labels = District Numbers
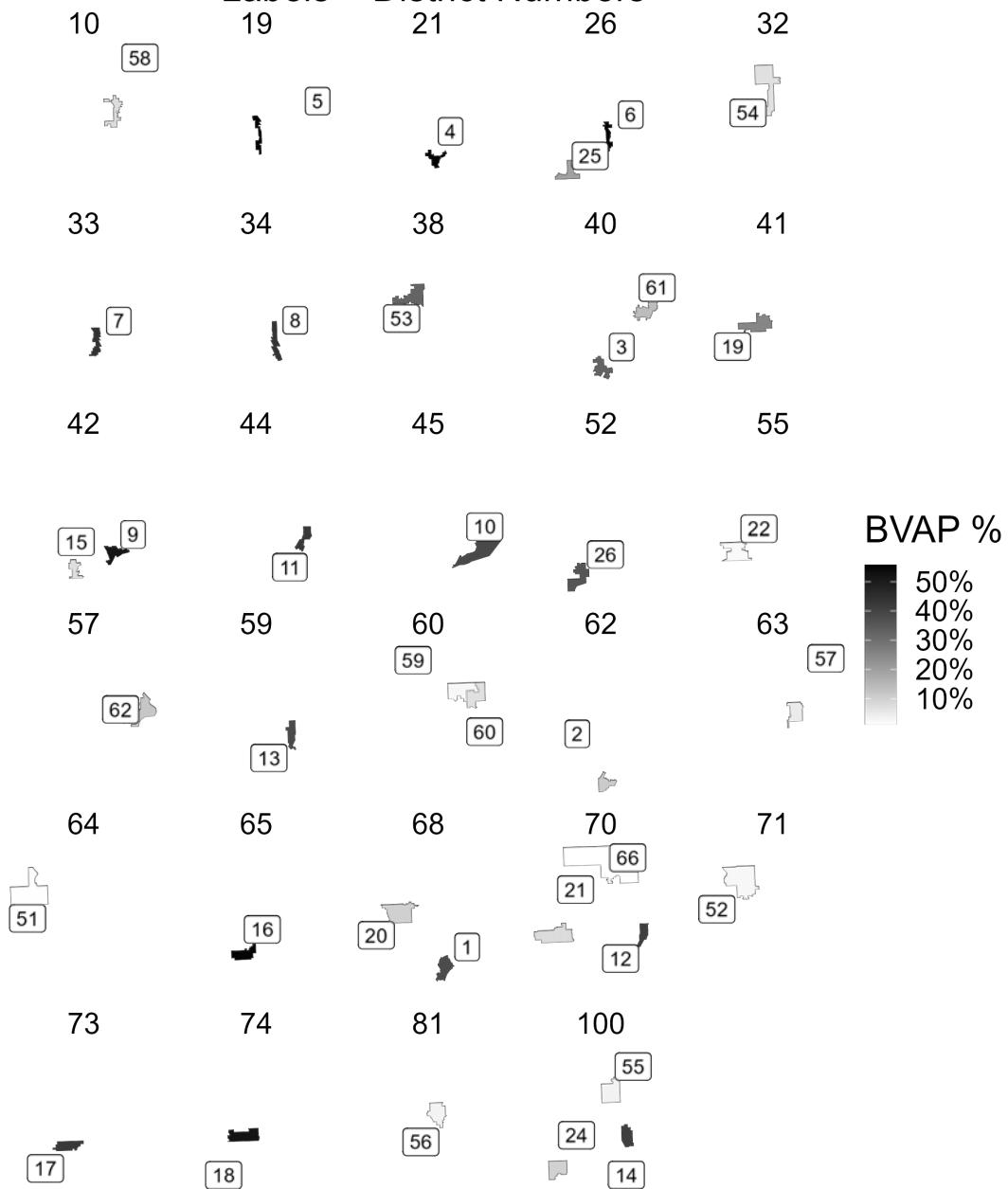
We see the same relationship. The more heavily Black districts in the Hickory map are consolidated at the top, while the districts in the Benchmark plan are more evenly distributed.

Overall, heavily Black districts are routinely ranked among the least compact in the state. When looking at the Reock scores, Districts 5 (#2), 6 (#15), 7 (#29), 8 (#11), 10 (#3), 16 (#30), 17 (#9), and 18 (#24) are among the 30 least compact districts in the state. For Polsby-Popper Scores, districts 5 (#4), 6 (#8), 7(#17), and 8(#11) are in this range. For the MAGiK scores, District 13 is the least compact district in the state, with 5(#17), 6 (#3), 7 (#28), 10 (#6), 11 (#9), 14 (#13), and 17 (#30) also scoring poorly.

But rather than relying on what we see with our eyes, we can more rigorously examine how compactness was sacrificed for race by conducting a simple regression analysis. Regression analysis tests the strength of the relationship between two variables by finding the line that best fits the data. It then tells us whether the relationship is "statistically significant." Statistical significance is determined by examining what is known as a "p-value." The p-value tells us how likely it is that we would see the outcome that we observed (or an even more extreme outcome) *if* there were no relationship between ballot order and vote share. *See* George Casella & Roger L. Berger, *Statistical Inference* 397 (2d ed. 2002). As that probability gets smaller and smaller, we eventually conclude that the outcome is simply too unlikely to continue to believe that there is no relationship. *Id.*

Coin flipping offers a useful analogy. We generally believe coins are fair. If you flip a coin and get a head, that is not unusual; you would think nothing of the coin. If you flipped it again and got another head, that is not unusual either (this will occur about 25% of the time with a fair coin). If you flipped it two more times and get two more heads, your eyebrows would raise. That should only happen about 6% of the time. At a certain point, the outcomes become so improbable with a fairly weighted coin that you would no longer believe that the coin is fair (it is *possible*, to toss 100 heads in a row with a fair coin, but it is extremely unlikely; the better explanation is that the coin is weighted).[1]

Statisticians typically use the following guidelines regarding interpretation of a p-value:

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[1] In reality, we would probably go quite some time before we concluded the coin was unfair. This is because many of us would in reality evaluate the evidence in light of a strongly held prior belief that coins are fairly weighted. This is a Bayesian-style analysis, and is discussed in more detail later in the report. Also, in a true frequentist experiment the number of tosses would be determined ahead of time; this example is solely to illustrate the concept of a p-value.

- <.01: very strong evidence the "null hypothesis"; in this case, that there is *not* a relationship between vote share and ballot order;
- .01 - .05: strong evidence against the null hypothesis;
- .05 - .1: weak evidence against the null hypothesis;
- > .1: little or no evidence against the null hypothesis; in this case, little-to-no evidence that ballot order is associated with vote share.

Wasserman, Larry, *All of Statistics: A Concise Course in Statistical Inference*, 157 (2004).

By convention, a p-value of 0.05 generally defines the boundary between a "statistically significant" finding and an insignificant one. Importantly, the p-value only tells us how probable the data are taking the null hypothesis as true: If the null were true, then we would see this sort of evidence "x" percent of the time. One *cannot*, however flip this around and claim a p-value of .12 suggests "given this data, there is a 12 percent chance the null [no relationship between Republican vote share and ballot order] is true." One also cannot then go a step further and say that there is an 88 percent chance that the original hypothesis (a relationship exists between ballot order and vote share) exists. Wasserman at 157. In statistical terms, the p-value represents an analysis of the data conditioned on the null hypothesis (more technically, a parameter estimate) being true. It is incorrect to reverse the statement, as if a researcher had conditioned on the data, and then draw conclusions about the probability of the null hypothesis being true. To use a more basic illustration, the following statement: "If a person has a pug, then they have a dog," is true. But it would be a mistake to flip it around and say, "If a person has a dog, then they have a pug."

The findings here are straightforward. Under the Benchmark Map, we lack sufficient evidence to support a claim that there is a relationship between the BVAP and any of the three metrics. Under the Hickory Map, however, the relationship is statistically significant between all three metrics and the p-values. The coefficients are negative, meaning that as the BVAP of a district increases, we can conclude that the compactness decreases.

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Tables 11, 12

Regression Results, Compactness vs. BVAP, All Benchmark House Districts

Test	Coefficient	P-value
Reock	−0.247	0.163
Polsby-Popper	−0.109	0.404
MAGiK	−0.002	0.048

Regression Results, Compactness vs. BVAP, All Hickory Districts

Test	Coefficient	P-value
Reock	−0.384	0.004
Polsby-Popper	−0.275	0.023
MAGiK	−0.001	0.045

The same findings are true when we restrict our inquiry to the districts in the Detroit area only (removing districts that are only partially in the three key counties we examine). There is a relationship between Reock scores and district BVAPs, but this does not hold with respect to the other two metrics. However, when we look at the Hickory Plan districts in the Detroit area, all three metrics are statistically significant. In other words, we have sufficient evidence to conclude that in the Detroit area alone, districts with heavy Black populations were made less compact than districts with light Black populations.

Tables 13, 14

Regression Results, Compactness vs. BVAP, Detroit Benchmark House Districts

Test	Coefficient	P-value
Reock	−0.907	0.008
Polsby-Popper	−0.352	0.184
MAGiK	−0.002	0.336

Regression Results, Compactness vs. BVAP, Detroit Hickory Districts

Test	coefficient	pvalue
Reock	−0.908	0.002
Polsby-Popper	−0.423	0.139
MAGiK	−0.003	0.069

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3.   County splits

As the demonstration maps above and simulation maps below demonstrate, it is possible to draw districts that comport with the state's obligations under the Voting Rights Act while minimizing county and municipal splits.   Yet the Hickory Plan does not do this.   Under the previous House map, 30 districts crossed county lines. Only 3 districts that cross lines cross the Macomb, Oakland, and Wayne county boundaries, and none of the them cross the boundary between those three counties.   Under the Hickory Plan, that number increases to 60, notwithstanding the fact that the Michigan Constitution requires that due regard be given to county lines. Nine of those additional 30 split districts are on the Wayne County boundary.

Moreover, under the previous plan, only ten counties are split more than once. Under the Hickory plan, that number increases to 47, with a total of 151 splits in those counties. Of those, 32 splits are found in Macomb, Oakland and Wayne counties.

4.   Simulation analysis

I have also conducted a simulation analysis of the Hickory Maps. Simulation analysis is widespread in political science. The simulation approach to redistricting has been accepted in multiple courts, including state courts in Ohio, North Carolina and Pennsylvania. *See League of Women Voters of Ohio v. Ohio Redistricting Commission* (2021); *Harper v. Hall* (2021); *League of Women Voters of Pennsylvania v. Com.* (2018). I chose to employ a particular version of this called Sequential Monte Carlo analysis. It has been accepted by courts and relied upon in many cases, including *Harkenrider v. Hochul* (2021), striking down the New York congressional and senate maps, and in *Szelgia v. Lamone* (2021), striking down the Maryland congressional map.

For this report, I have employed a broadly accepted "package" in R called "redist," which generates a representative sample of districts. *See, e.g.*, Benjamin Fifeld, et. al, "Automated Redistricting Simulation using Markov Chain Monte Carlo," 29 *Jrnl. Computational and Graphical Statistics* 715 (2020).

There are a variety of proposed simulation techniques, but they all proceed from the same basic principle: precincts are aggregated together in a random fashion, potentially subject to a variety of parameters, to form districts in hundreds or thousands of maps. This creates an "ensemble" of maps that reflect what we would expect in a state if maps were drawn without respect to a certain criteria – here, racial criteria. If the map is drawn without racial intent, its partisan features should match those that appear in the ensemble. The more the map deviates from

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what we observed in the ensemble, the more likely it becomes that racial considerations played a heavy role.

To better understand how this works, imagine the following cluster of seven hexagons as a cluster of precincts, with each hexagon representing an individual precinct. The precincts are connected when they share adjacent sides. Those adjacencies are reflected in the image below by the lines that connect the hexagons. The top precinct therefore shares a border with the center, top right, and top left precincts; the top left hexagon shares a border with the top, center, and bottom left precincts; and so forth.

It is possible, however, to "break" adjacencies, by telling the computer to treat the precincts as not adjacent, effectively removing one of these lines. One can continue to do so until there is only one path from any precinct to any other precinct. This is called a "spanning tree," *e.g.*, Kruskal, J.B., "On the Shortest Spanning Tree of a Graph and the Traveling Salesman Problem," 7 *Proc. Amer. Math Soc*. 48 (1956), and it lies at the heart of the redistricting algorithm.

For almost every set of more than two precincts, there will be multiple spanning trees, but the number of such trees is finite. I have illustrated two such trees for our cluster of seven hexagons.

Once you have reduced the number of connections between precincts to a minimum, removing one additional connection will create two distinct clusters of precincts. This is exactly what a district is: a collection of contiguous (adjacent) precincts that is separated from other precincts on the map by ignoring adjacencies with other precincts. In the following illustration I have removed the connection between the center hexagon and the lower right hexagon, and then illustrated the two districts this creates in the right panel.

This, then, is a microcosm of the approach that the redist package takes. To simplify greatly, by sampling spanning trees of Michigan's precincts and then removing 109 connections, the software produces 110 randomly drawn districts. While the math is quite complicated, this approach produces a random sample of maps that mirrors the overall distribution of maps, much as a high-quality poll will produce a random sample of respondents that reflects the overall population. While the process is complicated, it can be run on a quality laptop computer.

Importantly, these maps are drawn without providing the software with any racial information. In other words, these maps help inform an analyst what maps would tend to look like in Michigan if they were drawn without respect to race.

Of course, other features, such as respect for county lines, compactness, or respect for geographic features could play a role in the drawing of district lines as well; these traditional redistricting criteria are almost always viewed as valid considerations by courts. To account for this, when removing the connections that create districts, the algorithm can be instructed to favor the removal of connections that will result in districts that remain within specified parameters when deciding which connections to remove. It can be instructed to remove connections in such a way that equally populated districts will be created, or to prefer breaks that will create compact districts, or will respect county boundaries, or any number of other factors.

Here, the simulation was instructed to follow federal and state law by drawing districts that will have a maximum total deviation of +/- 2.5%. The simulation was also instructed to draw reasonably compact districts. Finally, the simulation was first run with an instruction to avoid county splits. However, because the MICRC seemed to have been fairly inconsistent in its

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treatment of county splits here, the simulations were also run without the county split minimization constraint.

Because the Wayne County districts frequently traverse the Wayne County border in all directions, I selected all of those precincts located within districts that were contained, in whole or in part, in Wayne, Macomb, Oakland, Monroe or Washtenaw counties. These were House districts 1-33, 46-49, 51-63, 65, and 66. Two districts in northwestern Oakland County were also excluded because they are primarily located in a different metro area: Flint.

Although some of these districts stretch beyond the Detroit metro area, I chose to include all them because I wanted to allow second-and-third order effects of the map choices in Wayne County to propagate. That is to say, the Commission surely did not limit itself to selecting from the precincts contained in the Wayne County districts when drawing maps. Nor did it believe that all of those precincts had to be placed in a Wayne County-based district. By allowing adjacent and nearby precincts to be selected, we help ensure the simulations have the same range of choices that the MICRC had. I then sampled 50,000 districts using the constraints outlined above.

I ran the simulations three ways. First, I instructed the simulations to draw maps respecting county boundaries. Because the MICRC does not appear to have given much weight to this factor, however, I also instructed it to draw maps without respecting county boundaries. We first consider the maps drawn without respecting county boundaries.

The results confirm that the Hickory Map looks nothing like a map drawn without respect to race. I present these results in two ways. First, I use dotplots. In this plot, all 52 districts in each of the 50,000 simulated maps were sorted from districts with the highest BVAP to lowest BVAP.   Each of these districts then received a dot in the plot. At the far right, above the number 52, you will notice a large cluster of grey dots spread between 75% and 92%. That means in every plan, the district with the highest BVAP fell somewhere between 75% and 92% Black.

The next cluster to the left, hovering above the number 51, consists of grey dots ranging between around 63% and 90%, Black with a few dots below 63%. This means that in all of the 50,000 simulated maps, the district with the second-highest BVAP typically fell between 63% and 90% BVAP, although a handful of maps produced districts that fell below 63% BVAP.

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Figure 27

Black Share by Simulated District (Black Dot = Hickory Plan)
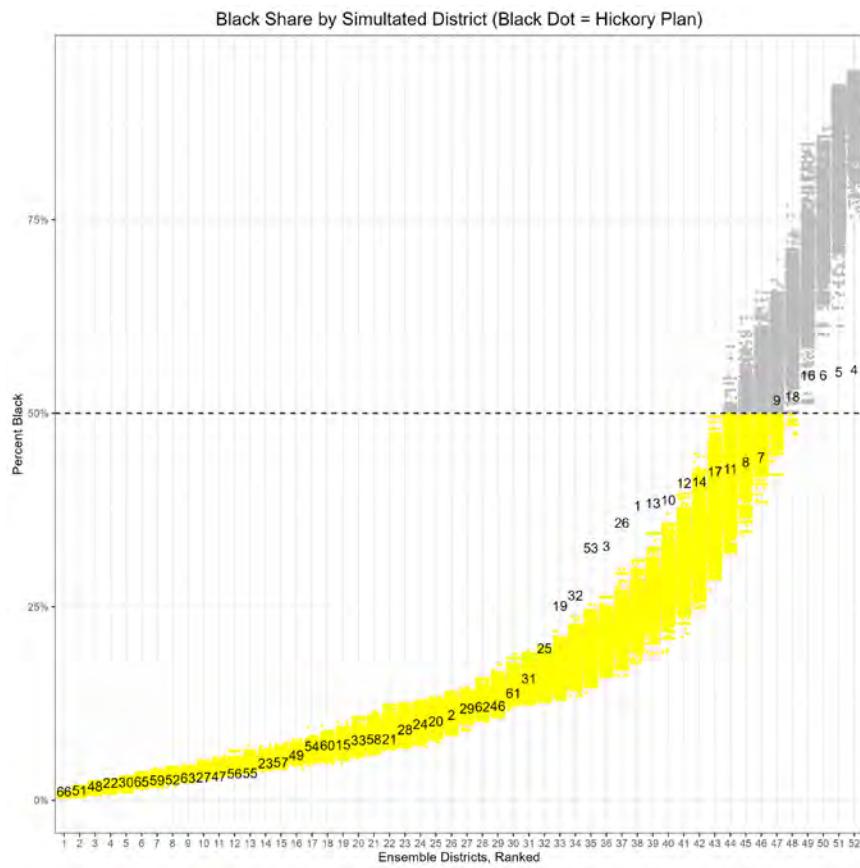
If a district had lower than 50% BVAP, I coded the dot as yellow, otherwise it was grey. As you can see, in some areas there is quite a bit of variation in what the maps draw, reflecting the wide array of race-neutral maps available to map-drawers. I have overlaid these dots from the simulated maps with labels depicting the racial breakdowns from the Hickory Map. This allows us to compare the racial breakdown of the districts in the Hickory Map directly to that of the simulations. If the Hickory Map was not drawn with a heavy reliance on racial data, or did so only moderately, it should hew closely to the results produced by the simulated maps (which were, of course, drawn blind to race). On the other hand, if map drawers relied heavily upon race when drawing the lines, we should expect significant deviations.

The chart plainly reflects the latter. While the simulated maps typically produce seven or eight (and frequently nine) majority BVAP districts, the Hickory Plan creates just six. But more telling is the "stairstep" pattern of the districts. The districts with the 31 lowest BVAPs fall squarely within the ranges predicted by the race-neutral simulations. In other words, in areas where the racial breakdown of the districts was unlikely to result in substantial Black populations in

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districts, the districts look exactly like what we would expect race-neutral districts to look like; the commission paid little attention to race in these areas.

When we move into more heavily Black areas, however, a pattern arises. The next 11 districts all are either drawn at the extremes of their expected ranges, or fall entirely outside their expected ranges. This is where the MICRC began paying attention to race heavily, packing Black voters into districts where they would nevertheless be unlikely to elect their candidates of choice. There is a price to be paid for this, however, detailed in the Voting Rights Act section of this report. In the heaviest Black areas, Black voters are cracked to decrease the Black share of the population below what we would expect from a map drawn without respect to race. This pattern is the DNA of a gerrymander. *See also* Gregory Herschlag *et al*, "Quantifying Gerrymandering in North Carolina: Supplemental Appendix." 7 *Statistics and Public Policy* 30 (2020) (referring to this pattern as the "signature of gerrymandering").

Of particular note is how closely the BVAPs hew to the 40% goal described in the Szetela Report, where we would not expect that from race-neutral maps.

To best illustrate the degree to which the Hickory Plan reflects outliers when compared to maps drawn without partisan information, I employed the "gerrymandering index," proposed by Bangia et al (2017) and endorsed by McCartan & Imai in their paper setting forth the algorithm used to generate the districts in this report. *See* Cory McCartan & Kosuke Imai, "Sequential Monte Carlo for Sampling Balanced and Compact Redistricting Plans," at 25, *available at* https://arxiv.org/pdf/2008.06131.pdf. I then applied it to race, instead of politics.

It is conceptually similar to the idea of root mean squared error (used throughout statistics). To calculate the index, we once again take each of the 50,000 simulated maps and rank the districts from highest BVAP to lowest BVAP in each map.

We then average BVAPs across these ranks. This step tells us, generally speaking, what percentage BVAP we would expect the highest BVAP district to have in a map drawn without respect to race, what we would expect the second-highest BVAP district to have, and so forth.

Of course, some areas might be conducive to a wide range of racial outcomes depending how the map is drawn. Other areas are so heavily White that the districts that are drawn there are likely to vary very little from that average. Put differently, we might be very surprised, due to simple geography, if a map's lowest BVAP district varies from that average by more than a few

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points; we might be less surprised if some districts at the other end of the distribution exhibited more variability.

To help account for this, we then calculate the deviations in each plan in the ensemble from the mean for each "bin." To make this less abstract: the district with the highest BVAP in the ensemble, on average, has a BVAP of 92.2% Black. A district in the ensemble whose highest BVAP district was 91% Black would have a deviation of 1.2% for that rank, while one whose highest BVAP district was 97% Black would have a deviation of 4.8%. The second highest BVAP district in maps in the ensemble is, on average, 87.5% Black. A map whose second highest BVAP district has a BVAP of 80% would have a deviation of 7.5%, and so forth. To emphasize large deviations (and to make everything positively signed so the deviations don't just cancel out) these values are then squared and added together to give us a sense of how far maps drawn without respect to racial data will tend to naturally vary from expectations overall. This number is the gerrymandering index.

In simplified terms, this gives us the total deviation from average BVAP share in the ensemble for all the districts in the plan, while giving more weight to particularly large misses. The square root is then taken, which effectively puts everything back on a percentage scale. We then engage in the same exercise for the enacted plan and compare these scores to those in the ensemble. If an enacted plan is drawn without respect to race, we should see gerrymandering indices that fall within the range of the gerrymandering index of the ensemble. If not, we should see an outlier.

The utility of this exercise is that it looks at maps as a whole, rather than looking at districts in isolation. The results here are particularly striking:

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Figure 28

Values of Racial Gerrymandering Index, Simultated house Maps (Red Line = Hickory Plan)
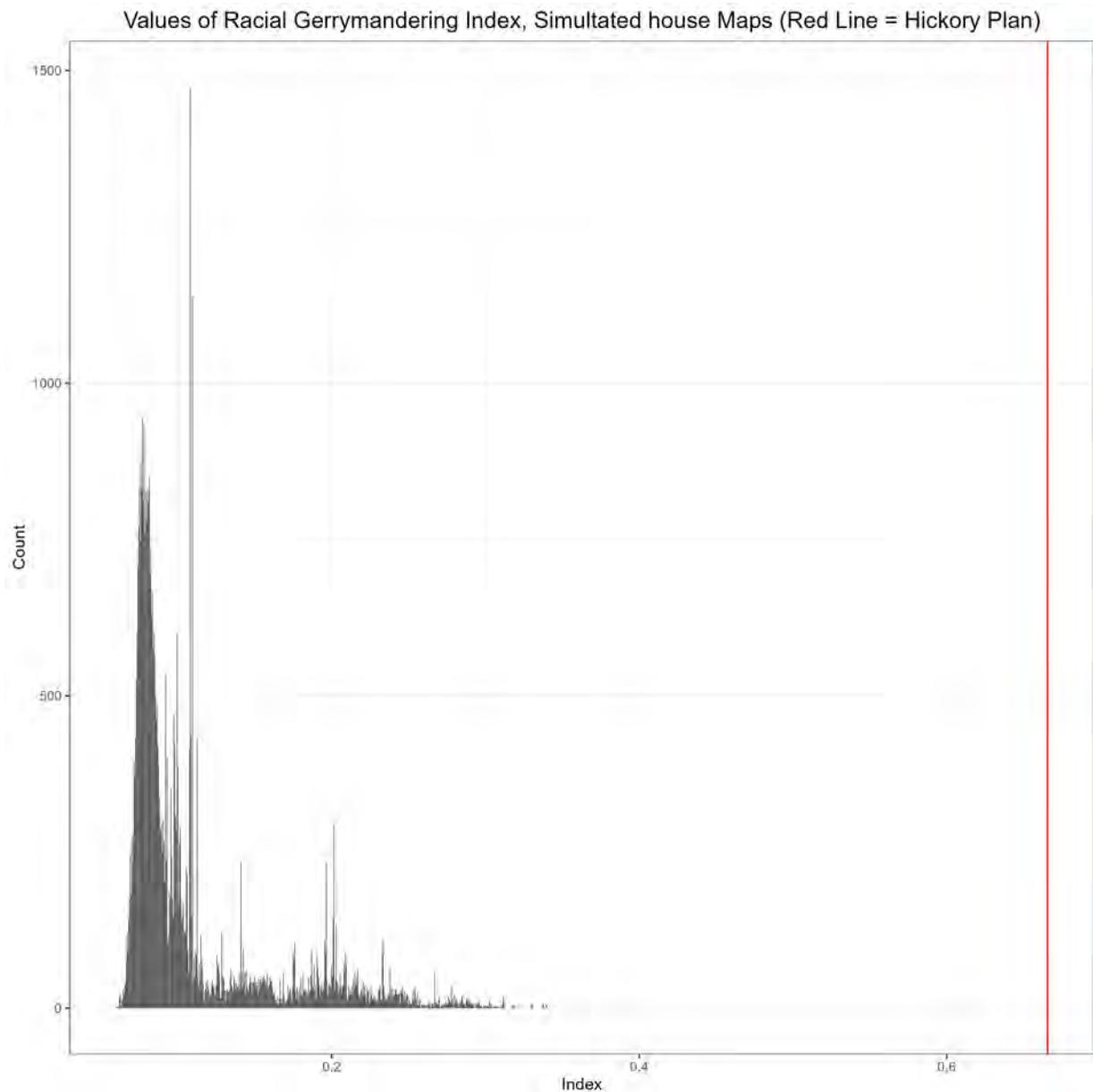
The Hickory Plan is a grotesque outlier, with the racial gerrymandering index of .66 falling well outside the range of the racial gerrymandering indices of the race-neutral ensembles. Is so far outside the range that the only reasonable conclusion is the commission relied heavily on race when drawing these districts.

We can also look at the case where counties are added as a constraint. We see it is the same basic outcome. The dotplots show large deviations from the race-neutral ensemble:

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Figure 29

Black Share by Simultated District (Black Dot = Hickory Plan), Counties Intact
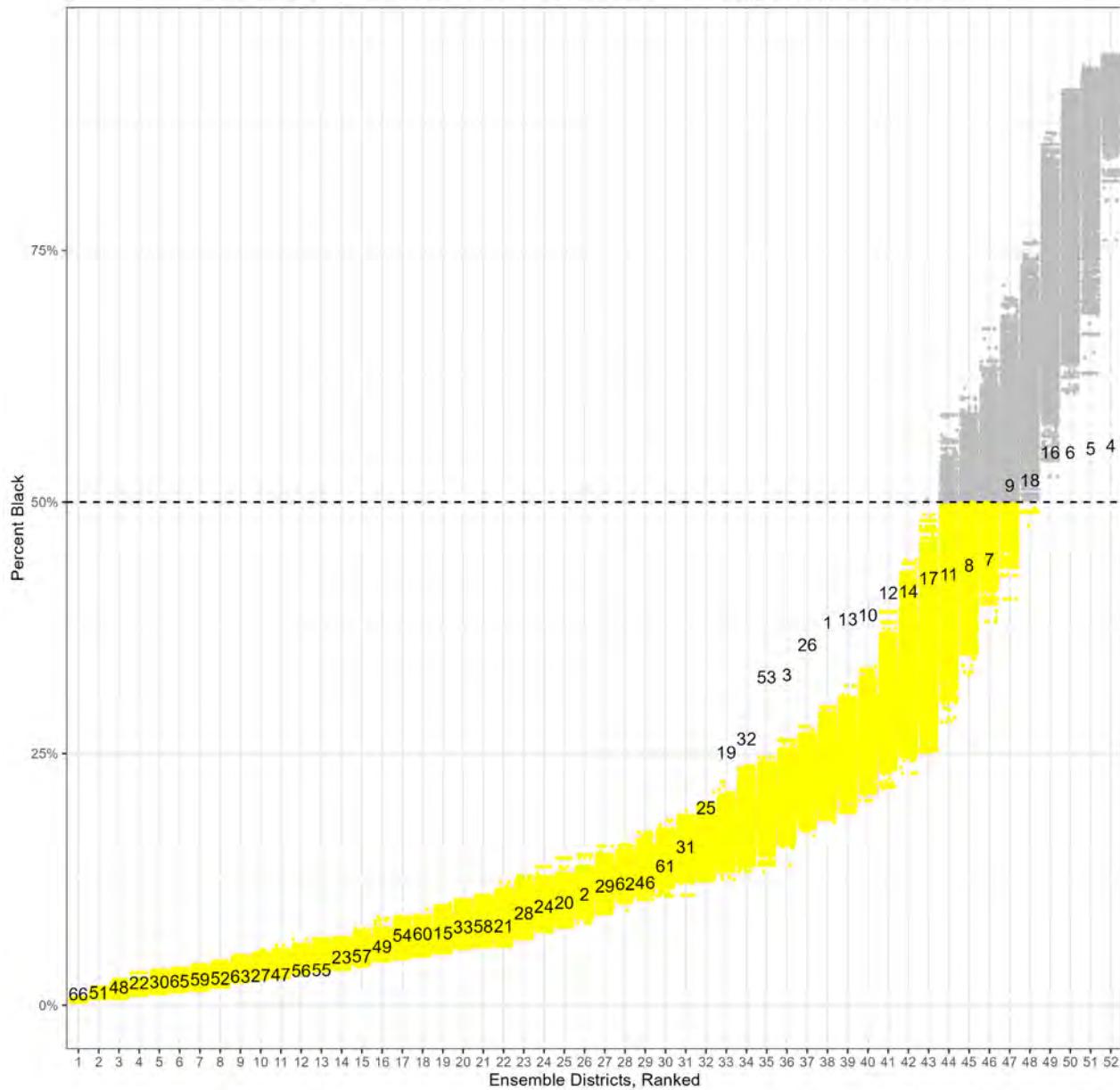
The racial gerrymandering index also presents as a substantial outlier. Thus, the only reasonable conclusion here is that the MICRC's attorneys' directive to draw districts to a 40% target dominated the creation of the Detroit-area districts.

Figure 30
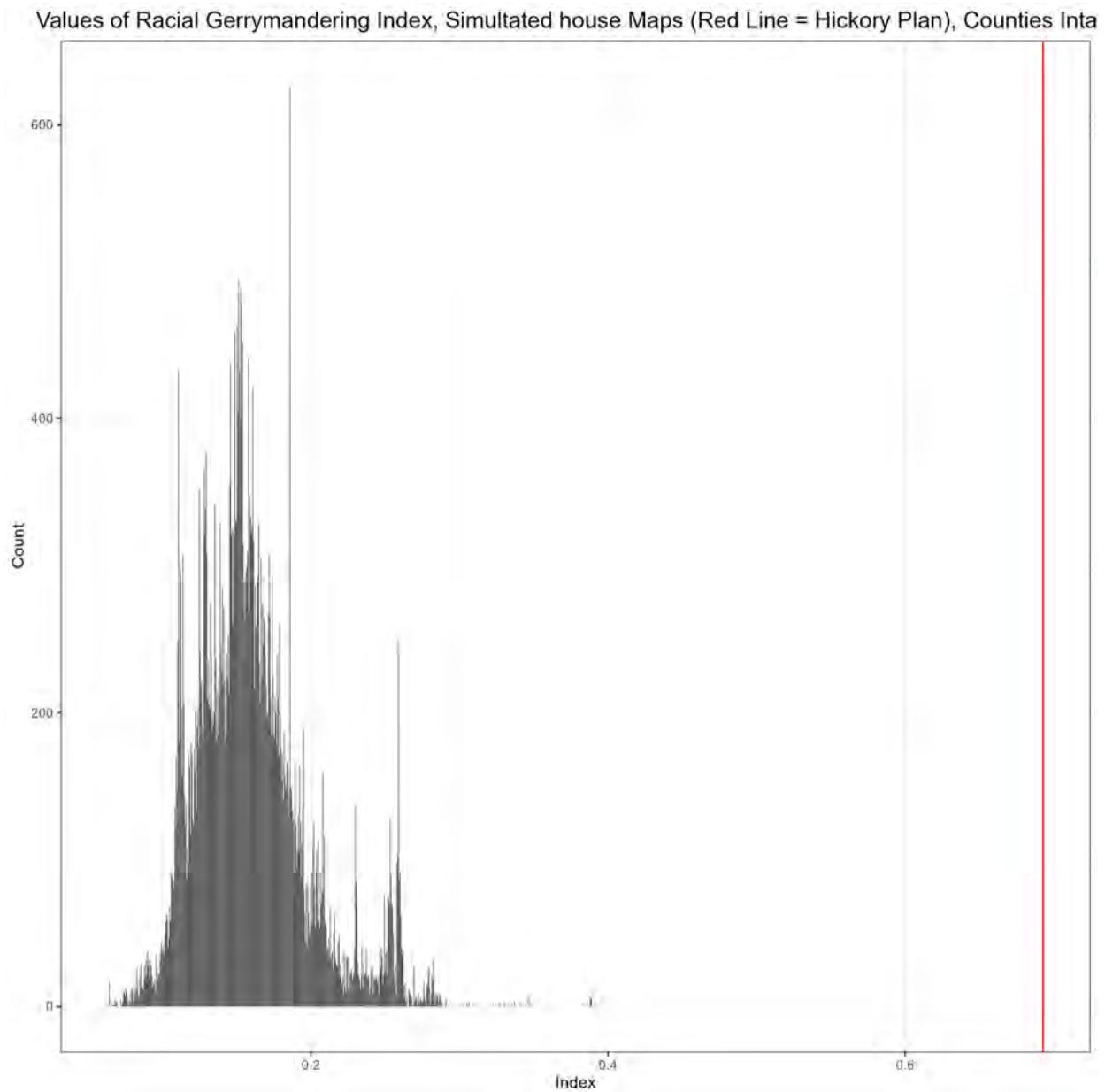
In short, over the course of 100,000 total race-neutral maps, we never see anything approaching the deviation of the ensemble. In other words, a result like this simply does not happen by chance. Taken together, these findings demonstrate that drawing districts to a 40% BVAP total was an overriding goal of the commission.

In response to these statistical outliers, some might argue that this could all be a function of politics. That is to say, because there is some correlation between race and politics, and because the commission was instructed to draw a "fair" map, perhaps the distortions we see in the racial

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composition of the districts is simply a function of the hunt for districts that fit a particular distribution.

To test this, we can select a political indicator and see if the Hickory Map presents as a grotesque outlier there as well. Because political outcomes are so heavily correlated today, it generally doesn't really matter which race or races we select, but for this set of simulations I selected the 2020 presidential election. If the map were being distorted on the basis of race as a secondary effect of a need to pay close attention to the political composition of the districts, we should see a pattern in the political composition of the Hickory Districts that is similar to the pattern we saw in the racial composition of the Hickory Districts, with strong deviations occurring in the 45%-55% range, where competitive races occur.

In fact, *we do not see this*. While there are meaningful deviations, they are not nearly as substantial as the deviations we saw for the Hickory Map. This is true whether or not counties are instructed to remain intact.

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Figure 31

Democratic Vote Share by Simulated District (Black Dot = Hickory Plan), Counties Intact

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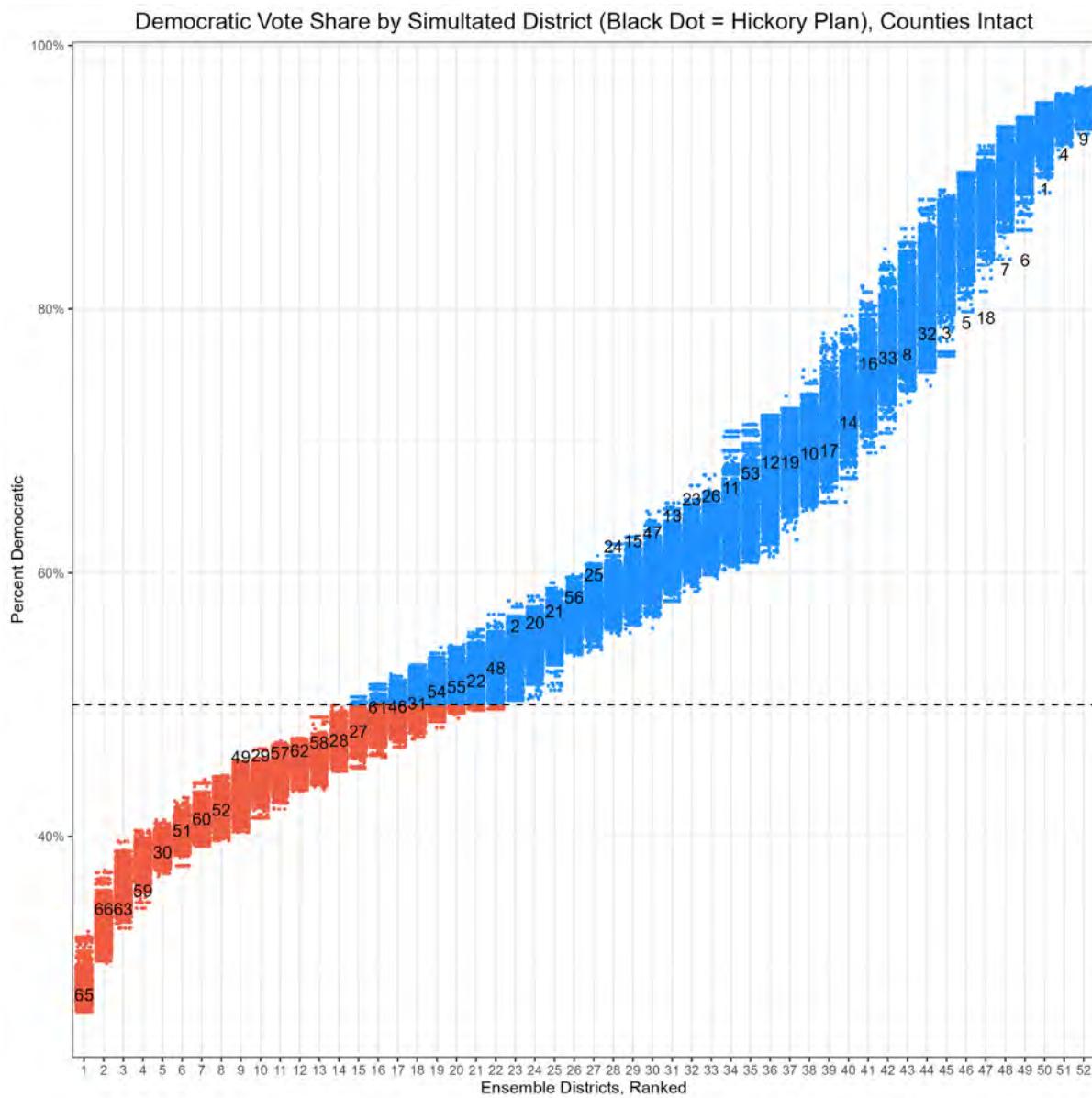
Figure 32
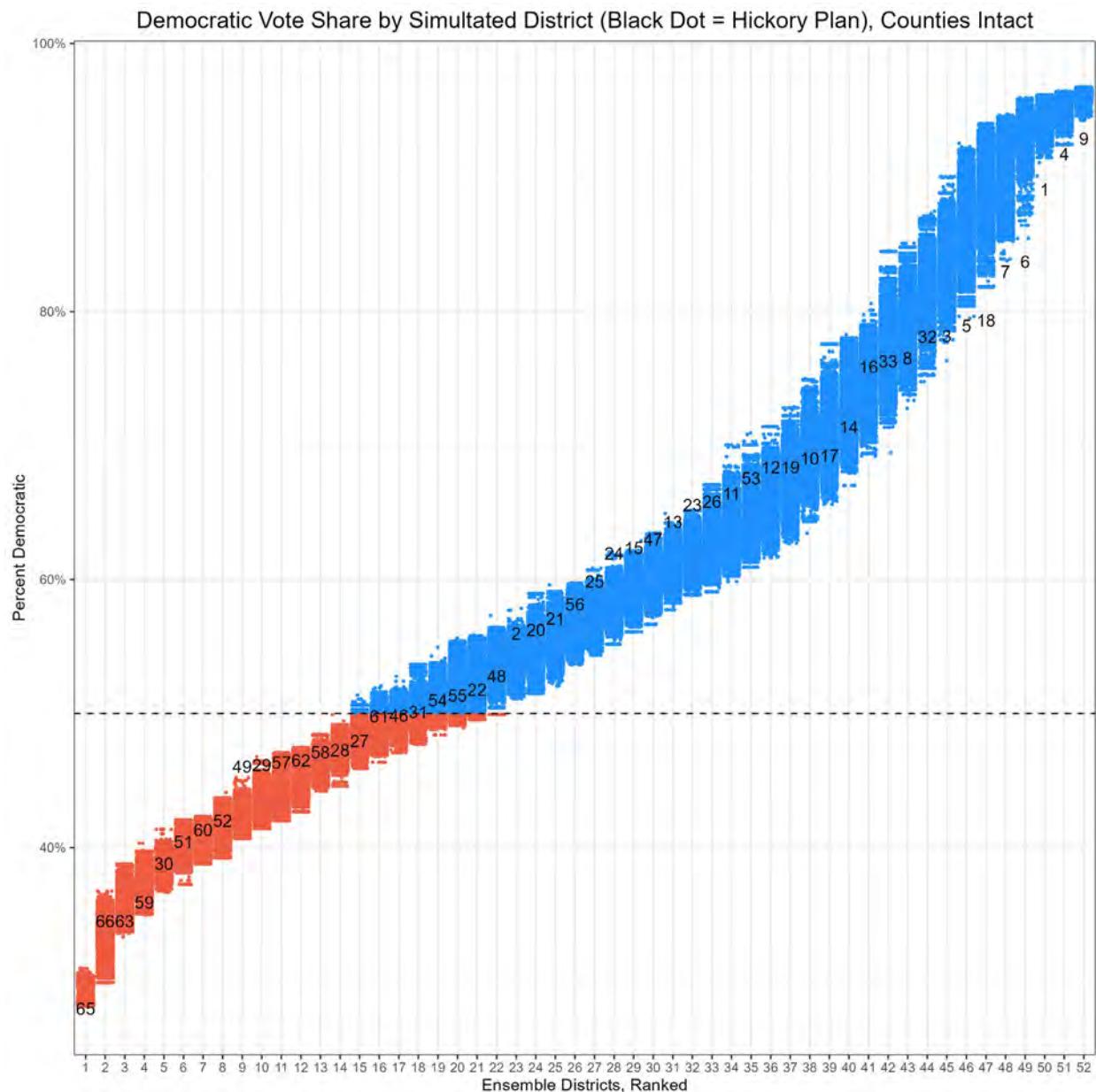
Notably, the Hickory Plan contains *almost exactly* as many districts carried by President Joe Biden as we would expect from a map drawn without any respect to politics. There is perhaps a modest bias toward competitive districts, but the largest deviations occur in places where such deviations matter the least: In heavily Democratic districts. These districts also tend to be the most heavily African-American. If anything, the deviations we see with respect to politics are likely being drawn by the desire to change the racial composition of districts, and not the other way around.

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The gerrymandering indices confirm this. Although there are, indeed, deviations from the politics-neutral ensembles, they are not nearly as substantial as the deviations based on race.

Figure 33

Values of Gerrymandering Index, Simulated Maps (Red Line = Hickory Plan)

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Figure 34

Values of Gerrymandering Index, Simulated Maps (Red Line = Hickory Plan), Counties Intact
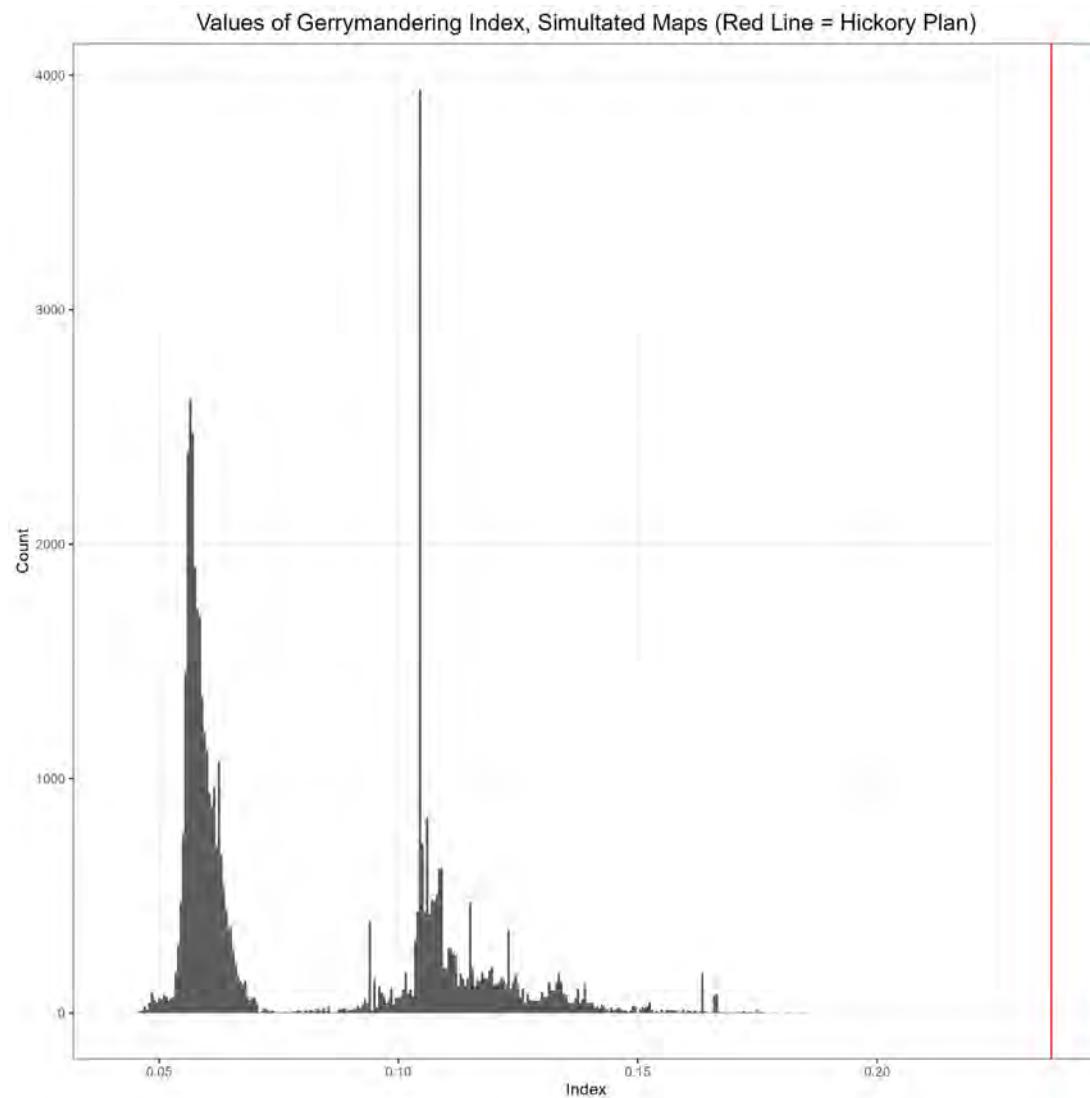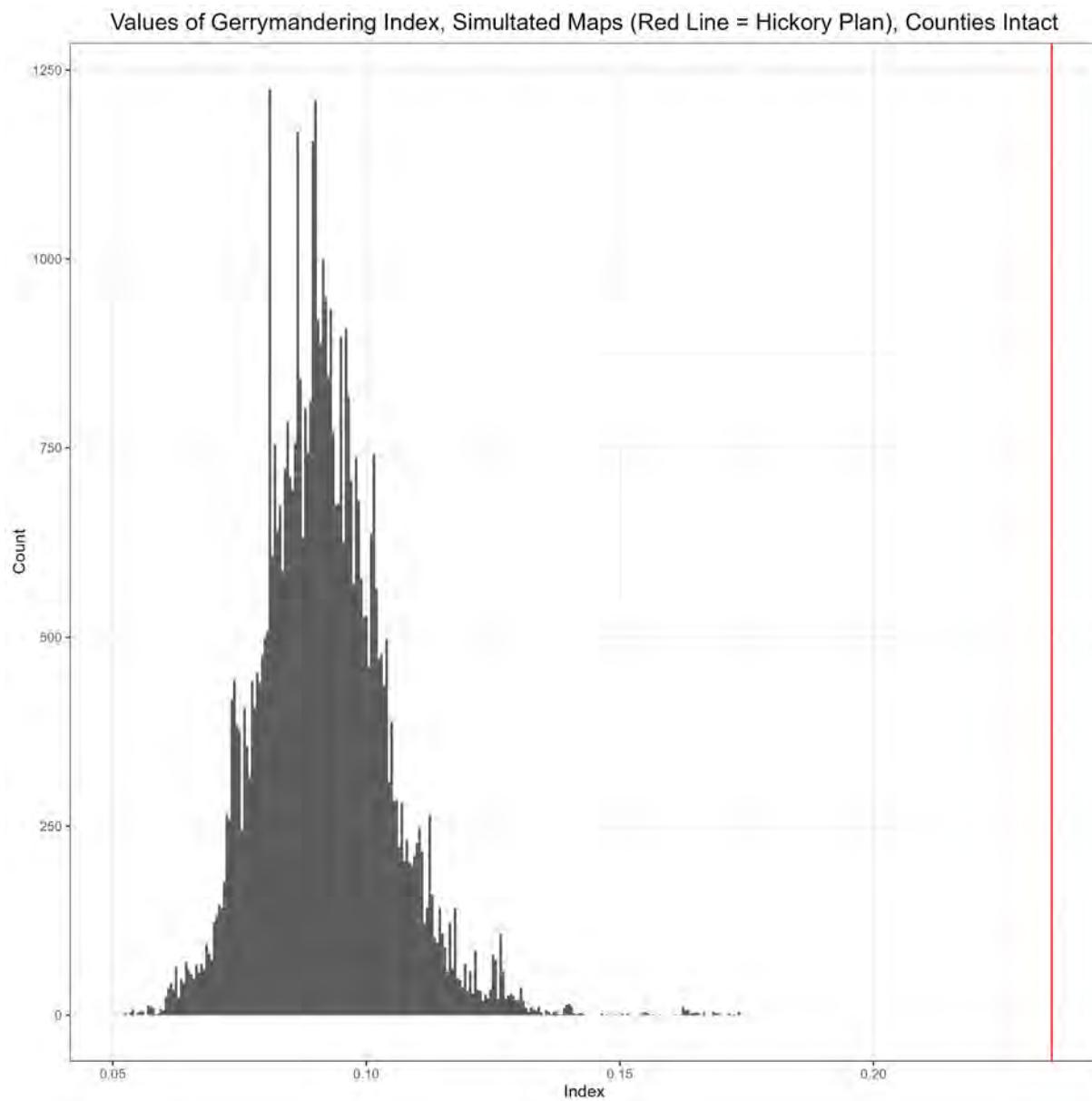
In other words, the data unsurprisingly show that the MICRC paid some attention to politics. But it does not appear, however, that politics was the determinative factor that drove the racial composition of the districts. To the contrary, the weight of the evidence suggests that it was the racial composition of the districts that drove the politics.

As a final check, I took into account of communities of interest by "freezing" cities and townships that the commission chose to keep intact. That is to say, if the commission failed to split a city or township, the simulated maps will be forced to keep that city or township intact. The results do not change appreciably.

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Figure 35

Black Share by Simulated District (Black Numbers = Hickory Plan), COIs Intact

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Figure 36

Values of Racial Gerrymandering Index, Simultated house Maps (Red Line = Hickory Plan), Counties Inta

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Figure 37

Democratic Vote Share by Simultated District (Black Numbers = Hickory Plan), COIs Intact

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Figure 38

Values of Gerrymandering Index, Simulated Maps (Red Line = Hickory Plan), COIs Intact
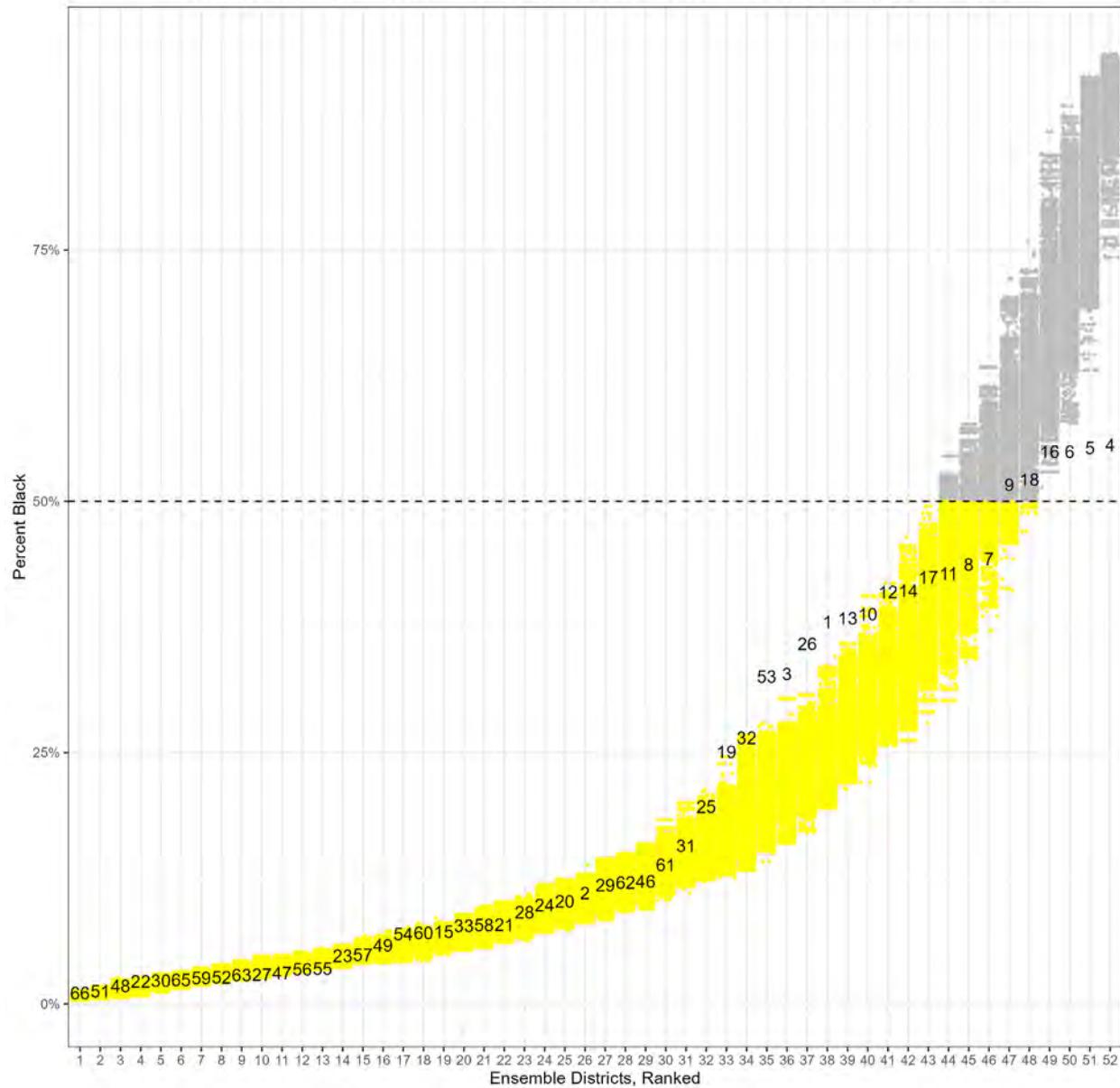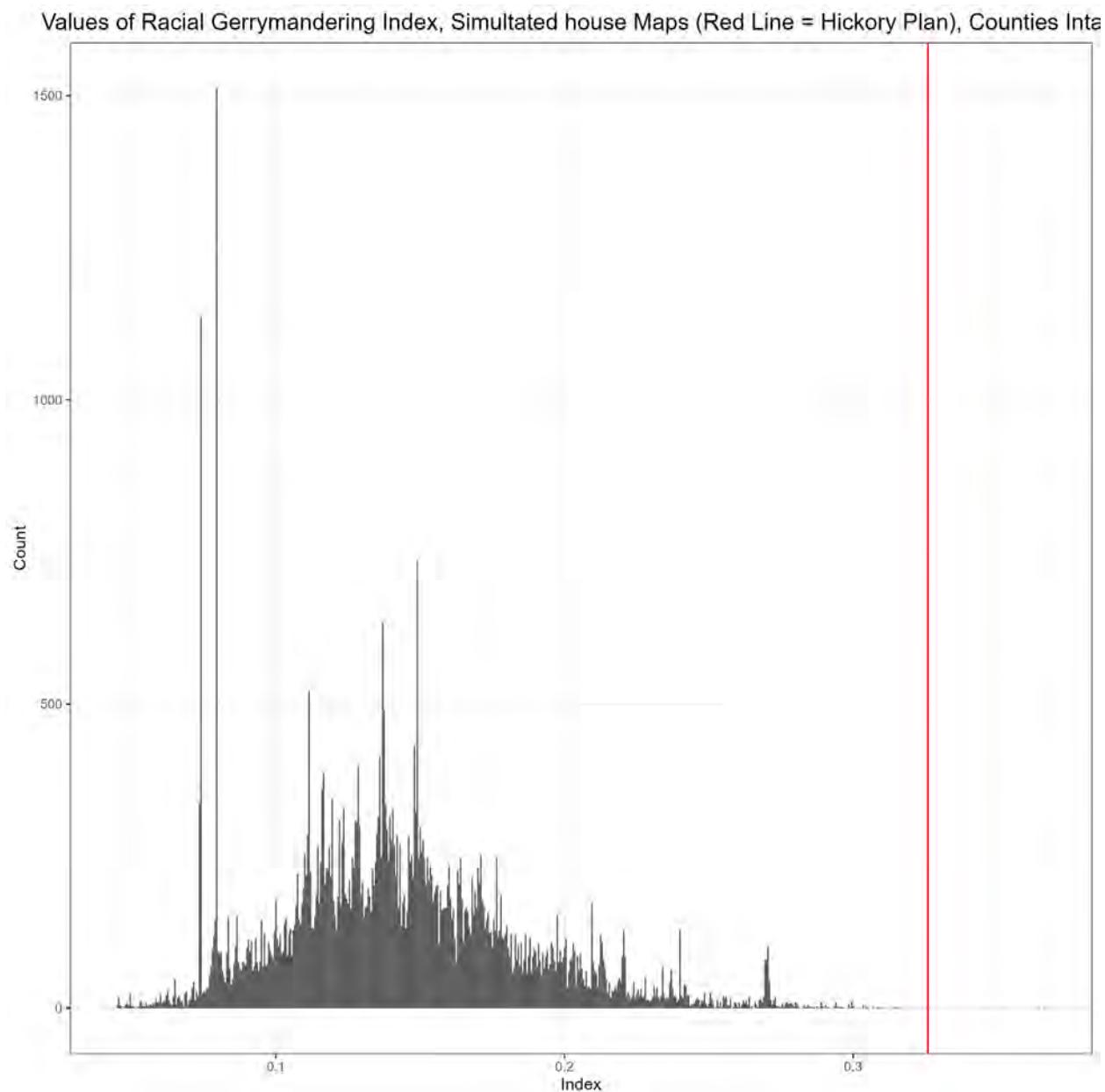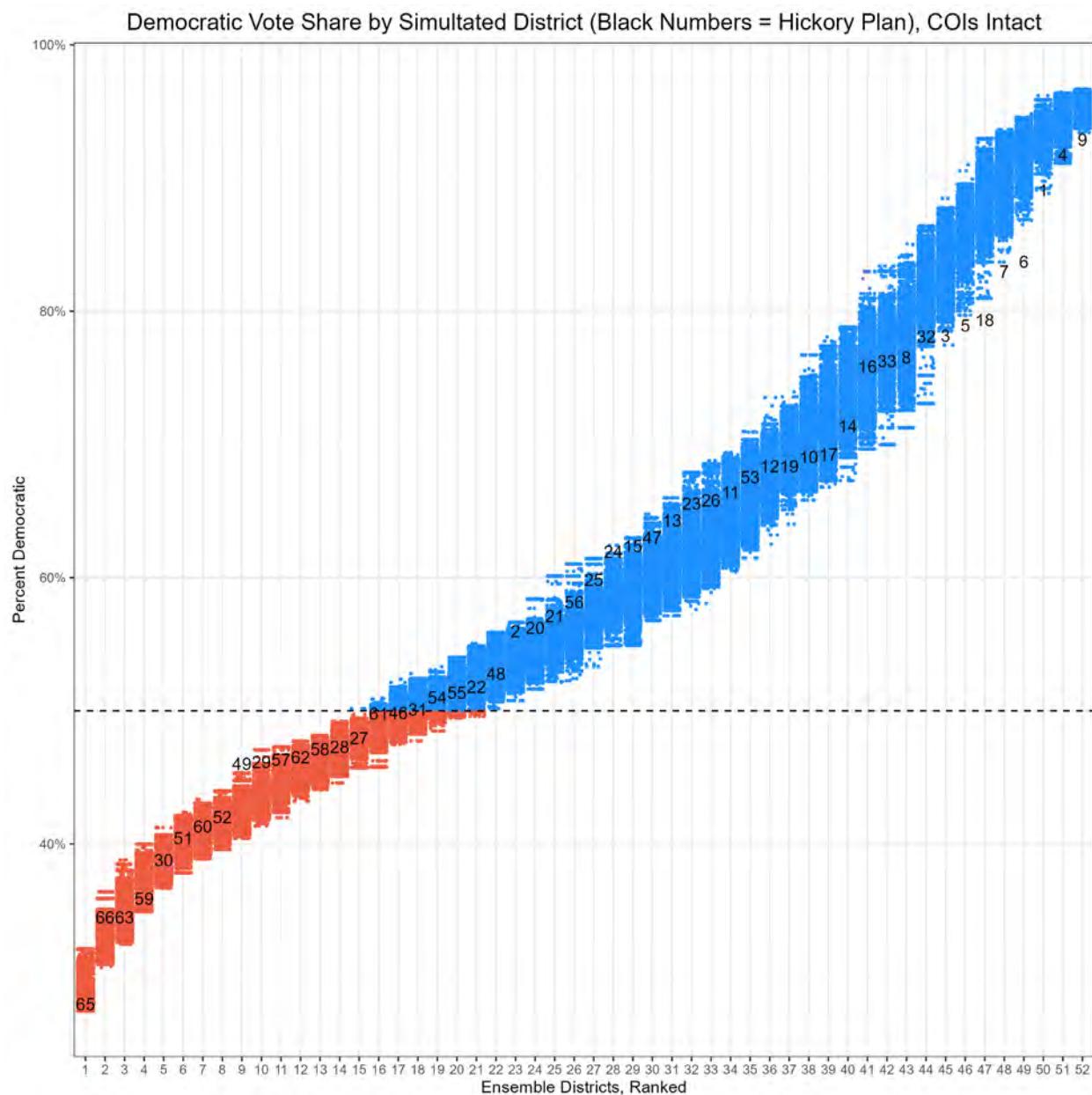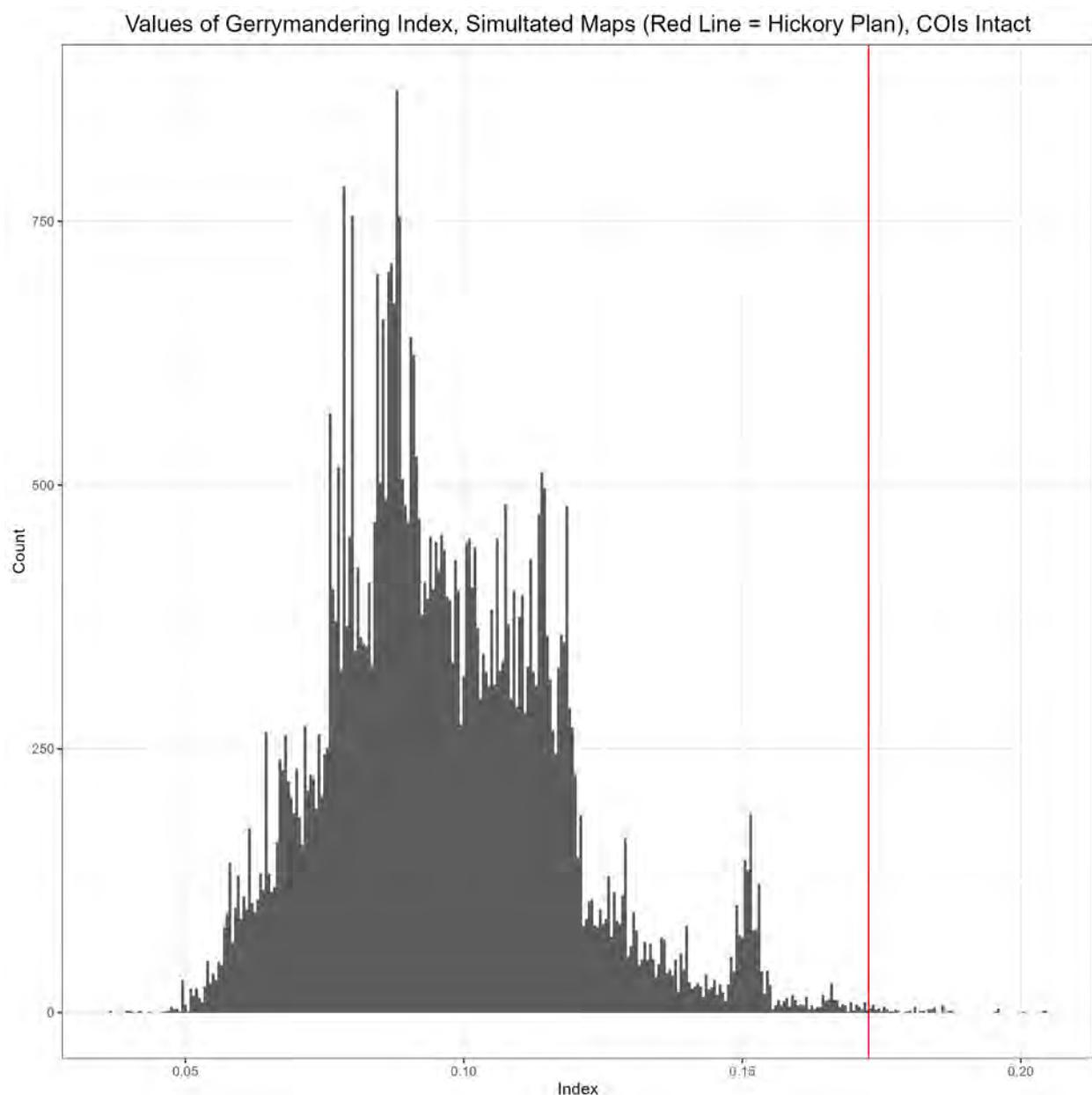
VII.   MI State Senate

A. *Gingles* Factors and the performance of the Linden Map

1. Numerosity/Compactness

First, I was once again asked to draw a map that would draw reasonably configured districts in the Wayne County area with Black majority VAPs, while minimizing township, county and city splits. I was able to draw five such districts. For purposes of this map, I only changed districts 1-16 and 23-25. It is possible that a less disruptive map could be drawn by sacrificing compactness

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or splitting more township, county and city lines. A map of the altered districts follows, along with a summary of the relevant data from them. Individual maps of the districts follow in an Appendix:

Figure 39

Plaintiffs' Senate Demonstration Map

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Table 15
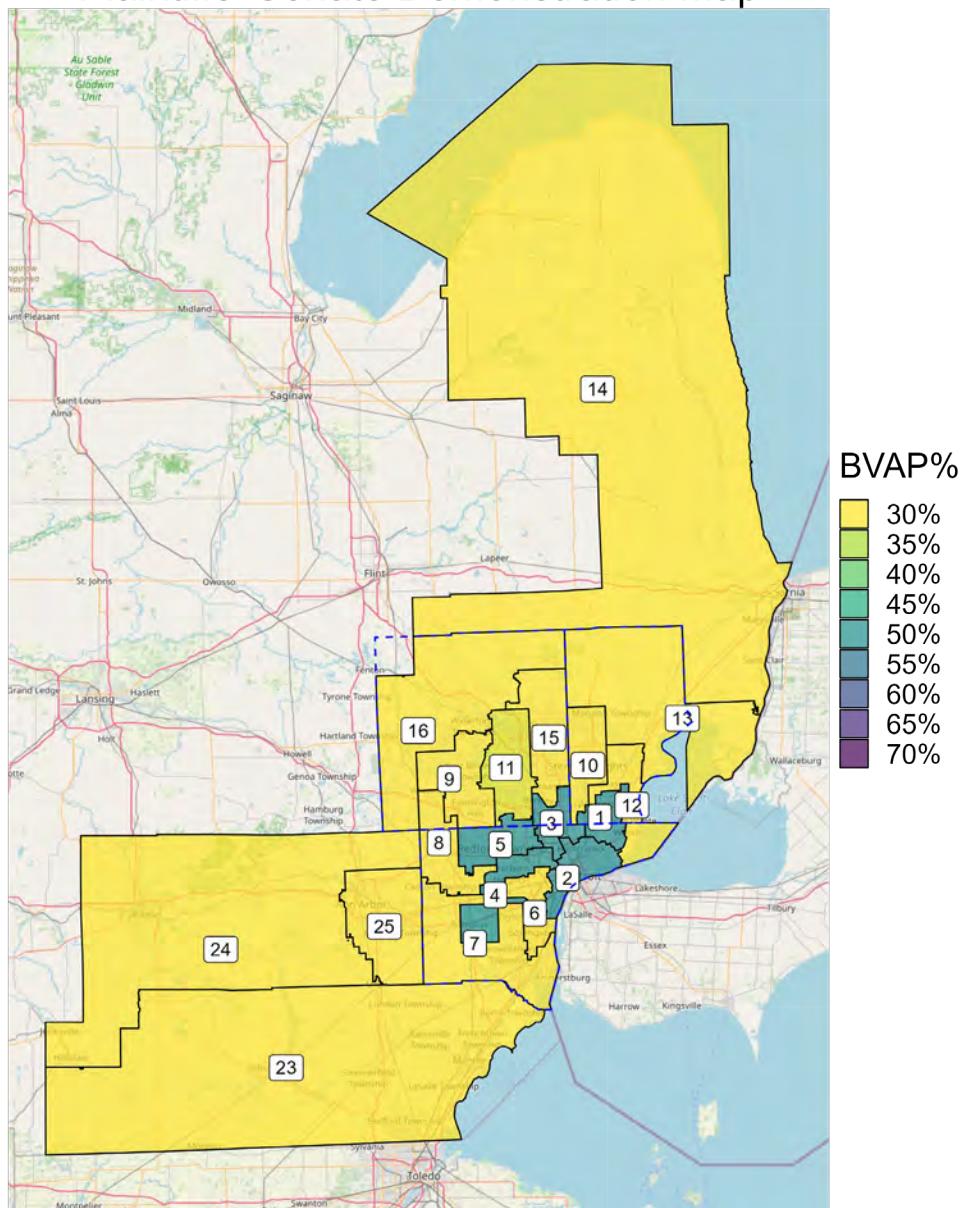
District	Population	Deviation	BVAP	HVAP	AVAP	WVAP
Demonstration Plan, Redrawn Districts With Population Deviation and Racial Statistics						
1	261,875	−1.25%	50.60%	1.92%	2.45%	40.87%
2	260,905	−1.62%	50.88%	14.63%	5.36%	25.22%
3	260,000	−1.96%	50.41%	2.18%	2.74%	40.79%
4	267,494	0.87%	50.01%	4.10%	0.96%	40.56%
5	267,226	0.77%	50.16%	2.19%	1.81%	42.17%
6	264,289	−0.34%	5.35%	8.55%	1.92%	79.80%
7	264,921	−0.10%	13.68%	4.95%	4.68%	71.89%
8	266,533	0.51%	8.88%	3.35%	12.43%	71.57%
9	261,088	−1.55%	11.10%	3.42%	10.16%	71.74%
10	265,088	−0.04%	6.74%	2.35%	8.00%	79.54%
11	259,914	−1.99%	31.77%	6.43%	5.64%	52.41%
12	261,163	−1.52%	11.30%	2.36%	2.39%	80.23%
13	263,379	−0.68%	4.60%	2.76%	1.74%	87.17%
14	262,338	−1.08%	1.48%	2.88%	0.50%	91.62%
15	267,826	0.99%	3.43%	3.48%	14.16%	75.57%
16	266,445	0.47%	1.56%	3.56%	1.96%	88.81%
23	269,802	1.74%	2.38%	4.57%	0.57%	88.24%
24	271,250	2.28%	5.19%	3.05%	1.87%	85.64%
25	271,336	2.32%	13.88%	5.51%	11.38%	63.74%

The newly drawn districts are roughly as compact as the Linden Plan's districts. The mean Reock score is 0.394, while the mean Polsby-Popper score is 0.340. This is comparable to the Linden Plan's mean scores of 0.37 and .352 (note: these scores are for the newly drawn districts only. The least compact district under the Linden Plan is 0.245 for the Reock Score and 0.202 for the Polsby-Popper metric; this compares to 0.233 and 0.206 for the Demonstration map. Notably, the less compact districts are not found in the ability-to-elect districts.

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In addition, the districts split fewer counties than the Linden Map. The Macomb/Oakland county line remains intact. The Wayne County/Macomb County line is crossed just twice, while the Wayne County/Oakland county line is crossed just three times. No other boundaries between counties in the newly drawn district other county line is crossed more than once. With a few exceptions (the three-way split of Westland), townships and cities are split no more than once.

2. Polarized Voting

State Senate races are different than state House races; they attract fewer candidates, attract more professional candidates, and are more expensive. They also illustrate clearly the dangers of dropping the BVAP in districts too far. Consider the 2014 elections. Of the six districts with significant Black populations under the Benchmark Plan, two featured unopposed races. A third (District 2) saw agreement on the candidate of choice between Blacks and Whites – supporting incumbent Sen. Bert Johnson. The other races were different. In a 45.4% BVAP district, Sen. Virgil Smith narrowly bested Rashida Tlaib by 8 points, thanks to a higher degree of polarization behind her. In District 11, the White vote fractures between Ellen Lipton and Vicki Barnett, allowing the Black candidate of choice to win by four-tenths of a point. In the 5th District, propelled by near-uniform support among White voters and facing a fractured Black field, the White candidate of choice (who earned just 7% of the vote from Black voters) won in a 52.5% BVAP district by just over eight points.

Table 16

District	**BVAP**	**Black 1st Choice**	**Black 1st Choice %**	**Black 2nd Choice**	**Black 2nd Choice %**	**White 1st Choice**	**White 1st Choice %**	**White 2nd Choice**	**White 2nd Choice %**	**Black Cand Margin%**
Prior Senate 5	52.50%	Shanelle Jackson	35.76%	David Nathan	30.67%	David Knezek	86.01%	David Nathan	3.26%	-8.20%
Prior Senate 2	49.30%	Bert Johnson*	65.31%	John Olumba	24.21%	Bert Johnson*	74.62%	John Olumba	14.36%	–
Prior Senate 3	46.70%	Unopposed	–	–	–	–	–	–	–	–
Prior Senate 4	45.40%	Virgil Smith*	65.30%	Rashida Tlaib	32.80%	Rashida Tlaib	55.94%	Virgil Smith	30.99%	7.90%
Prior Senate 1	43.10%	Unopposed	–	–	–	–	–	–	–	–
Prior Senate 11	34.00%	Vincent Gregory*	62.23%	Ellen Lipton	20.08%	Ellen Lipton	44.42%	Vicki Barnett	43.48%	0.40%

2014 Senate EI Summary

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Table 17

Ecological Inference, 5th Senate District Primary, 2014

Party	Estimate	Lower 95%	Upper 95%
Asian			
Shanelle Jackson	7.71%	3.47%	15.09%
David Knezek	49.54%	18.76%	69.44%
David Nathan	9.69%	3.94%	19.22%
Carrie O'Connor	16.46%	6.01%	31.44%
Thomas Stallworth	5.72%	2.42%	11.38%
Frank Tomcsik	10.88%	4.63%	21.88%
Black			
Shanelle Jackson	35.76%	34.59%	36.92%
David Knezek	7.32%	5.62%	9.14%
David Nathan	30.67%	29.66%	31.68%
Carrie O'Connor	1.55%	1.16%	1.99%
Thomas Stallworth	23.92%	23.04%	24.80%
Frank Tomcsik	0.78%	0.57%	1.02%
Hispanic			
Shanelle Jackson	5.00%	2.67%	8.21%
David Knezek	51.78%	30.53%	68.30%
David Nathan	6.42%	3.20%	11.74%
Carrie O'Connor	20.92%	10.23%	35.73%
Thomas Stallworth	6.09%	3.19%	10.64%
Frank Tomcsik	9.80%	4.98%	17.28%
NH White			
Shanelle Jackson	2.78%	1.65%	4.10%
David Knezek	86.01%	83.21%	88.42%
David Nathan	3.26%	2.14%	4.61%
Carrie O'Connor	3.21%	2.10%	4.65%
Thomas Stallworth	2.13%	1.34%	3.07%
Frank Tomcsik	2.61%	1.79%	3.48%

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Table 18

2014 Democratic State Senate Primary Results, Elections w/ Black Candidates, Detroit Metro Area		
Candidate	Vote Share	Candidate Race
District 5 (54.3% BVAP)		
Knezek, David	32.2%	White
Jackson, Shanelle	24.0%	African American
Nathan, David	21.0%	African American
Stallworth III, Thomas	16.4%	African American
O'Connor, Carrie	4.5%	White?
Tomesik, Frank	1.9%	White
District 2 (51.1% BVAP)		
Johnson, Bert	63.0%	African American
Olumba, John	22.2%	African American
Lemmons, Georgia	10.5%	African American
Nykoriak, Taras	4.4%	White
District 3 (48.2% BVAP)		
Morris Hood	100.0%	African American
District 4 (47% BVAP)		
Smith, Virgil	49.8%	African American
Tlaib, Rashida	41.9%	Middle Eastern
Worthy, Howard	8.3%	White?
District 1 (44.7% BVAP)		
Young, Coleman	100.0%	African American
District 11 (35.5% BVAP)		
Gregory, Vincent	34.7%	Black
Barnett, Vicki	34.3%	White
Cogen Lipton, Ellen	31.0%	White
District 10 (8% BVAP)		
Jenkins, Kenneth	100.0%	African American

Overall, in these races the Black candidates' vote shares tend to mirror the BVAP of the district, running within a few points of each other. This is unsurprising, given the degree of racially polarized voting.

The 2018 elections tell a similar story. Black and White voters agreed on Marshall Bullock and Jeremy Moss as their candidates of choice. In two more districts, Black candidates of choice

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were able to win narrowly against White-supported candidates. Sylvia Santana managed to win by just 2.8% in a 46.7% BVAP district in a race where she was the only candidate who raised more than $5,000 according to Transparency USA.

Table 19

2018 Senate EI Summary

District	BVAP	Black 1st Choice	Black 1st Choice %	Black 2nd Choice	Black 2nd Choice %	White 1st Choice	White 1st Choice %	White 2nd Choice	White 2nd Choice %	Black Cand Margin%
Prior Senate 5	52.50%	Betty Jean Alexander	68.10%	David Knezek*	31.90%	David Knezek*	72.60%	Betty Jean Alexander	27.50%	9.00%
Prior Senate 2 Special	49.30%	Brian Banks	28.80%	Adam Hollier	27.50%	Abraham Aiyash	42.56%	Adam Hollier	32.38%	−5.20%
Prior Senate 2	49.30%	Brian Banks	27.31%	Adam Hollier	25.65%	Abraham Aiyash	42.18%	Adam Hollier	32.45%	−3.80%
Prior Senate 3	46.70%	Sylvia Santana	60.30%	Anita Belle	25.40%	Gary Woronchak	76.00%	Sylvia Santana	18.70%	2.80%
Prior Senate 4	45.40%	Marshall Bullock	47.20%	Fred Durhal	40.60%	Marshall Bullock	38.60%	Fred Durhal	31.30%	–
Prior Senate 1	43.10%	Alberta Tinsley Talabi	47.10%	Stephanie Chang	27.10%	Stephanie Chang	76.70%	Stephanie Roehm	8.70%	−23.40%
Prior Senate 11	34.00%	Jeremy Moss	53.10%	Crystal Bailey	24.90%	Jeremy Moss	51.00%	Vanessa Moss	20.30%	–

Consider District 1 (43.1% BVAP), which the Handley Report identifies as being racially polarized, Handley Report at 9, with White voters preferring Stephanie Chang, and Black voters preferring Alberta Tinsley Talabi. Chang won the primary; she is now representing a district with a BVAP of just 35%. In District 2, it is difficult to identify a candidate of choice due to the badly fractured nature of the primary. Handley Report, at 9.

State Senate District 3 saw heavy racial polarization. Sylvia Santana won by less than three points against the White candidate of choice, Gary Woronchak, in a district that was 46.7% BVAP – still higher than the highest BVAP district under the Linden Plan.

In 2018, three African-American candidates ran in the Democratic primary in District 4; in this circumstance there was not significant racial polarization. In District 5 (52.5% BVAP), the voting was polarized. *Id.* The Black candidate of choice, Betty Jean Alexander, won her election. But her vote share of 54.5% of the vote closely mirrored the BVAP of the district.

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Table 20

2018 Democratic State Senate Primary Results, Elections w/ Black Candidates, Detroit Metro Area		
Candidate	Vote Share	Candidate Race
District 5 (54.3% BVAP)		
Alexander, Betty Jean	54.5%	African American
Knezek, David	45.5%	White
District 2 (51.1% BVAP)		
Hollier, Adam	25.2%	African American
Aiyash, Abraham	21.0%	Middle Eastern
Banks, Brian	17.2%	African American
Williams, Regina	9.4%	African American
Lemmons, LaMar	9.1%	African American
Olumba, John	6.4%	African American
Cushingberry Jr., George	4.1%	African American
Miah, Anam	3.4%	Middle Eastern
Gannan, Lawrence	2.0%	Hispanic/White
Phillips, William	1.2%	?
Campbell, Tommy	1.0%	White
District 3 (48.2% BVAP)		
Santana, Sylvia	41.5%	African American
Woronchak, Gary	38.7%	White
Belle, Anita	14.3%	African American
Burrell, Terry T	5.5%	African American
District 4 (47% BVAP)		
Bullock, Marshall	44.3%	African American
Durhal, Fred	38.3%	African American
Pinkins, Carron L	17.5%	African American
District 1 (44.7% BVAP)		
Chang, Stephanie	49.8%	Asian
Talabi Tinsley, Alberta	26.4%	African American
Cook Scott, Bettie	11.2%	African American
Cole Jr., James	5.2%	African American
Roehm, Stephanie	4.4%	White
Rivera, Nicholas	2.9%	Hispanic
District 11 (35.5% BVAP)		
Moss, Jeremy	51.7%	White
Bailey, Crystal	21.2%	African American
Moss, Vanessa	18.5%	African American
Turner, James	8.6%	?
District 6 (21.3% BVAP)		
Geiss, Erika	65.4%	African American
Kosowski, Robert	34.6%	White

This is problematic, because it is apparent that there is frequently racially polarized voting in these Senate districts, as there was in 2018. Thus, the Voting Rights Act would demand districts that would elect the Black candidate of choice. The evidence is significant, however, that dropping

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the BVAPs as low as the MICRC did would result in districts that would not reliably perform. This is exactly what happened in 2022.

Table 21

		2022 Senate EI Summary								
District	BVAP	Black 1st Choice	Black 1st Choice %	Black 2nd Choice	Black 2nd Choice %	White 1st Choice	White 1st Choice %	White 2nd Choice	White 2nd Choice %	Black Cand Margin%
Linden 7	44.80%	Jeremy Moss*	91.24%	Ryan Foster	8.76%	Jeremy Moss*	92.80%	Ryan Foster	7.20%	–
Linden 3	42.10%	Stephanie Chang*	81.00%	Toinu Reeves	19.00%	Stephanie Chang*	93.07%	Toinu Reeves	6.93%	–
Linden 10	40.40%	Unopposed	–	–	–	–	–	–	–	–
Linden 8	40.20%	Marshall Bullock*	79.87%	Mallory McMorrow*	20.13%	Mallory McMorrow*	96.34%	Marshall Bullock*	3.66%	−37.00%
Linden 6	39.10%	Mary Cavanagh	48.78%	Darryl Brown	38.73%	Vicki Barnett	48.25%	Mary Cavanagh	47.40%	8.10%
Linden 1	35.00%	Brenda Sanders	43.62%	Erika Geiss*	18.41%	Frank Liberati	46.38%	Erika Geiss*	42.57%	0.40%

In District 10, the only candidate was a White Democrat who hailed from Macomb County. Districts 7 and 3 saw agreement on retaining the incumbents, who also ran against token opposition. The Black candidate of choice managed to hang on in District 6. The other two districts, however, saw the Black candidate of choice lose. In District 1, Brenda Sanders received just 7% of the vote from non-Hispanic Whites. Black voters in turn rejected the White voters' choice – Frank Liberti – giving him just 4% of the vote. This fracturing allowed Erika Geiss, who neither faction had as their first choice (but who had significant support among White voters) win.

Of course, the big story came in District 8, which was perhaps the ideal test case for how these districts can be expected to perform as term limits kick in and the districts open up. It featured two well-funded Democratic incumbents, one from Wayne County, and one from Oakland County. White voters voted almost uniformly for the White candidate, Mallory McMorrow. Black voters voted as a slightly lower pace for Marshall Bullock. It didn't matter, as McMorrow was virtually guaranteed to win, absent a turnout collapse among Whites, so long as she benefitted from bloc voting.

Dr. Handley is surely correct that establishing a threshold of representation for a primary is difficult from this data. But cutting the BVAPs of all of these senate districts below 47% -- and all but one below 43% -- is a recipe for disaster in the long run. Black candidates of choice often

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have difficulty winning even in districts above that threshold. It surely will not get any easier as term limits push out incumbents who can leverage their incumbency to ward off strong challengers. For now, only three Senate seats elect Black candidates of choice. To hold on to these, Black candidates will likely have to hope for divided opposition, or underfunded opposition. With BVAPs hovering in the low 40% range, their future is not in their hands.

<u>Gubernatorial Elections</u>

Once again, the gubernatorial elections provide ample evidence of racial polarization in Democratic primaries.

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Table 22

Ecological Inference, 2018 Democratic Primary, Senate Benchmark Plan 1-6

Race	Party	Estimate	Lower 95%	Upper 95%
District 1				
Black	Thanedar	43.51%	40.66%	46.32%
NH White	Thanedar	6.82%	4.52%	9.69%
Black	Whitmer	33.77%	30.84%	36.66%
NH White	Whitmer	65.74%	60.09%	70.98%
District 2				
Black	Thanedar	49.49%	46.68%	52.21%
NH White	Thanedar	4.04%	2.77%	5.62%
Black	Whitmer	38.57%	35.54%	41.45%
NH White	Whitmer	52.70%	48.48%	56.82%
District 3				
Black	Thanedar	51.43%	49.41%	53.46%
NH White	Thanedar	3.39%	2.25%	4.87%
Black	Whitmer	37.90%	35.69%	39.95%
NH White	Whitmer	29.72%	26.80%	32.94%
District 4				
Black	Thanedar	41.95%	40.04%	43.75%
NH White	Thanedar	7.68%	4.96%	10.98%
Black	Whitmer	37.08%	34.97%	38.91%
NH White	Whitmer	72.40%	64.80%	78.44%
District 5				
Black	Thanedar	40.59%	38.97%	42.19%
NH White	Thanedar	6.42%	3.90%	9.38%
Black	Whitmer	39.12%	36.87%	41.13%
NH White	Whitmer	44.52%	36.43%	51.96%
District 6				
Black	Thanedar	38.69%	27.60%	49.08%
NH White	Thanedar	8.69%	5.41%	12.63%
Black	Whitmer	37.72%	25.54%	48.63%
NH White	Whitmer	76.96%	70.00%	82.45%

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Table 23

Ecological Inference, 2018 Democratic Primary, Senate Benchmark Plan 7-12

Race	Party	Estimate	Lower 95%	Upper 95%
District 7				
Black	Thanedar	29.33%	15.42%	47.57%
NH White	Thanedar	2.91%	1.96%	4.19%
Black	Whitmer	33.21%	16.32%	53.17%
NH White	Whitmer	74.80%	69.67%	79.61%

Shri Thanedar is the Black-preferred candidate in all five of the Detroit Districts, including by majorities in District 3, and nearly so in District 2. Thanedar, by contrast, likely never received more than 9% of the vote from non-Hispanic Whites here. Note too that as we move into the two suburban districts Whitmer's level of support skyrockets into the 70s.

Note the effects of the redrawn districts. Thanedar does not perform as well in the five Senate districts in the Benchmark plan as he does in many of the Benchmark House plans. But the Linden Plan functions in the same way as the Hickory Plan: with districts stretching out into the heavily suburban areas of Oakland County where Whitmer ran exceptionally well.

Figure 40

92
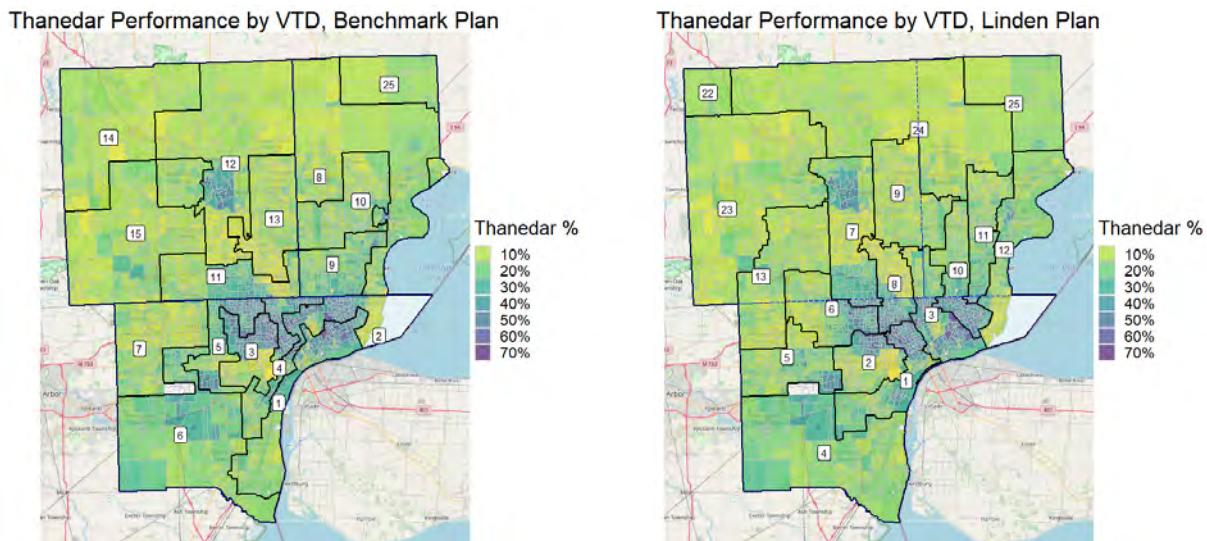
Figure 41
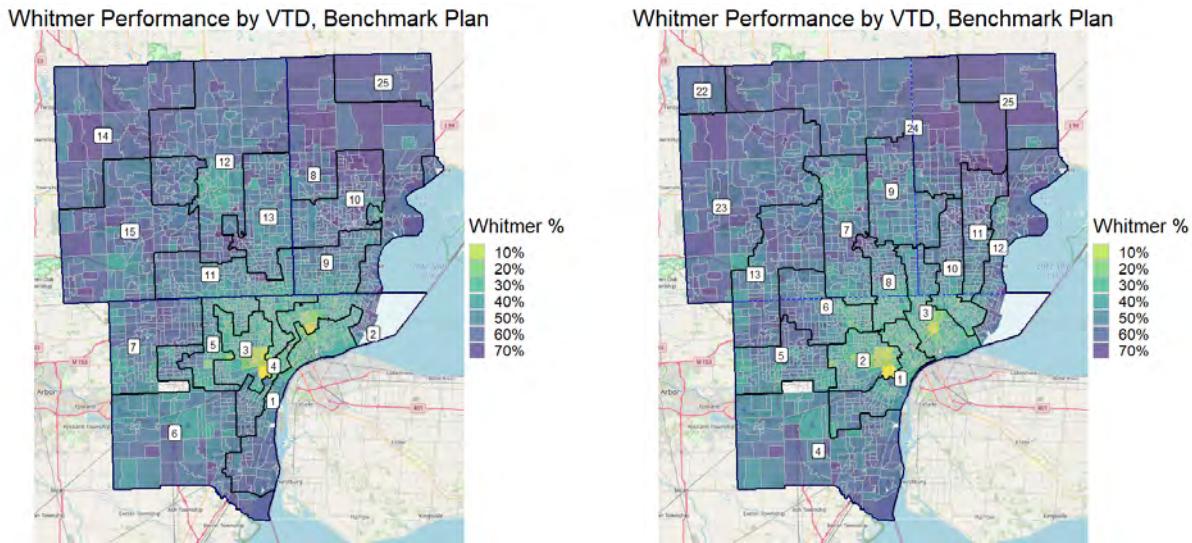
The result of this is that Thanedar's performance in the six districts with significant Black populations under the Linden Plan are all diminished. While the differences aren't as severe as under the Hickory Plan, in part because the Senate districts are large enough that he failed to carry any district, his performance drops by, on average, two points in the five most heavily Black districts under the Linden Plan.

B. Racial Predominance

1. Background

Like the House districts, under the Benchmark Plan, the Detroit area Senate districts were fairly compact, although not as compact as their House counterparts. Several of the Detroit districts are "baconmanders" themselves, suggesting that race predominated in their drawing. Nevertheless, the Wayne County line is never crossed under this plan.

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Figure 42

Benchmark Plan, Detroit Area Senate Districts by Race

© OpenStreetMap contributors
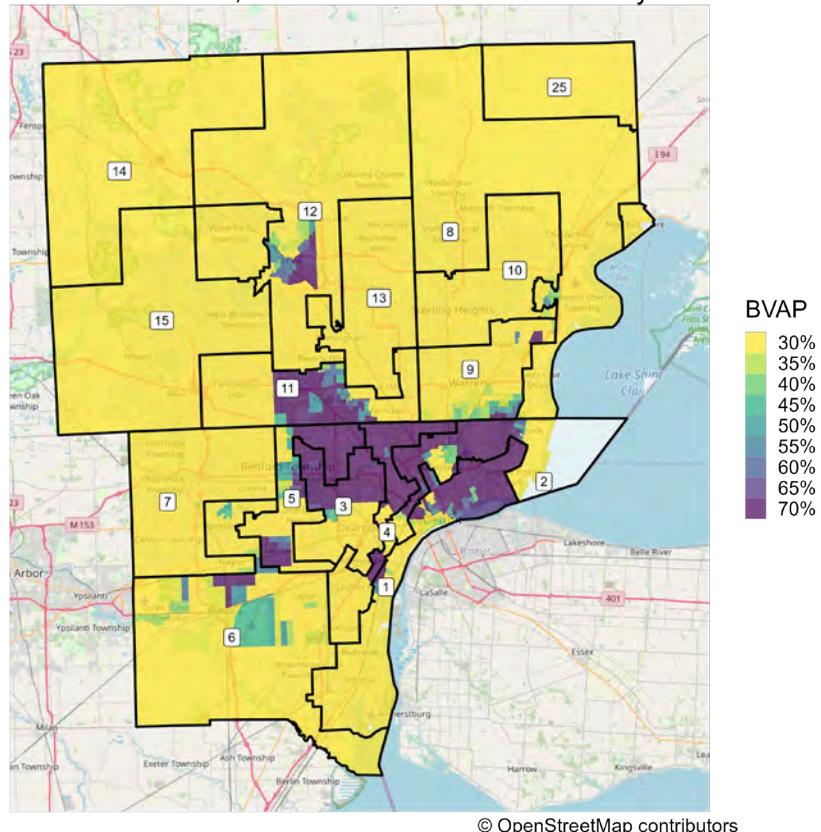
Despite the fact that at most five reasonably configured majority Black districts can be drawn in the area, the Detroit area Senate districts under the Linden Plan cross the county line repeatedly.

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Figure 43

Linden Plan, Detroit Area Districts by Race
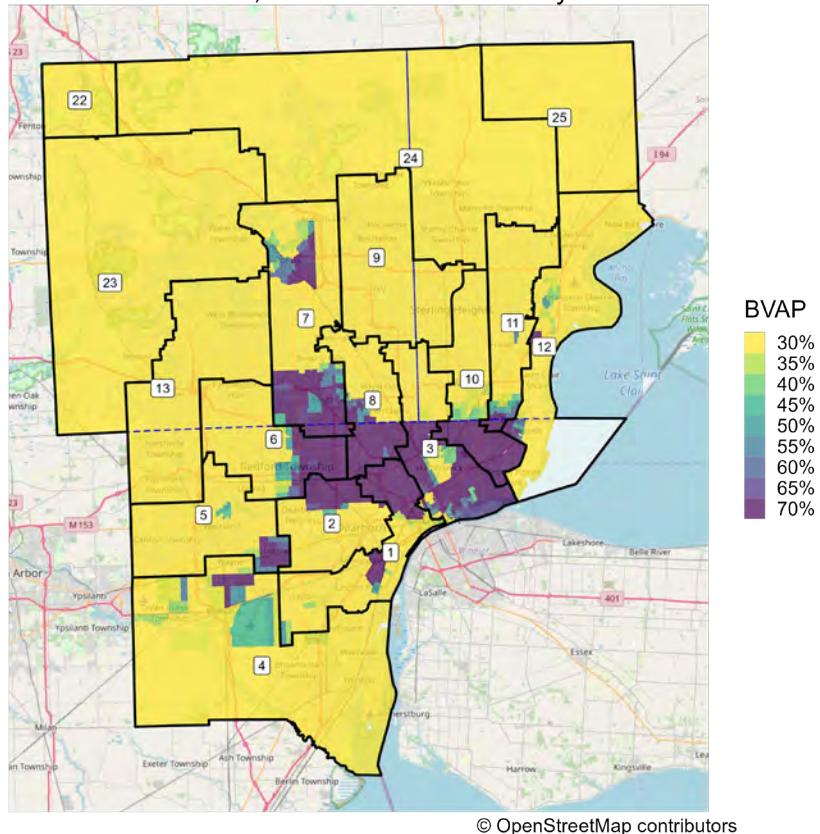
© OpenStreetMap contributors

Districts 3, 10, 11 and 12 cross the Wayne-Macomb boundary, districts 3, 6, 7, 8 and 13 cross the Wayne-Oakland boundary, while districts 3 and 9 and 24 cross the Oakland-Macomb boundary. This compares with the Benchmark Plan, where none of these boundaries are ever breached.

As with the Hickory Plan, this map crosses the Wayne boundary in particular ways. They function to take heavily Black areas of Detroit and combine them with suburban White areas of the Detroit suburbs. This reduces the Black VAP. As seen above, this "cracking" of the Black vote imperils the ability of Black voters to elect their candidates of choice. The same is true South of Detroit, where districts 1 and 5 adopt bizarre shapes to achieve their goal. We can see this better by focusing in on these districts in particular:

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JA00402

Figure 44

Linden Plan, Key Districts by Race

© OpenStreetMap contributors
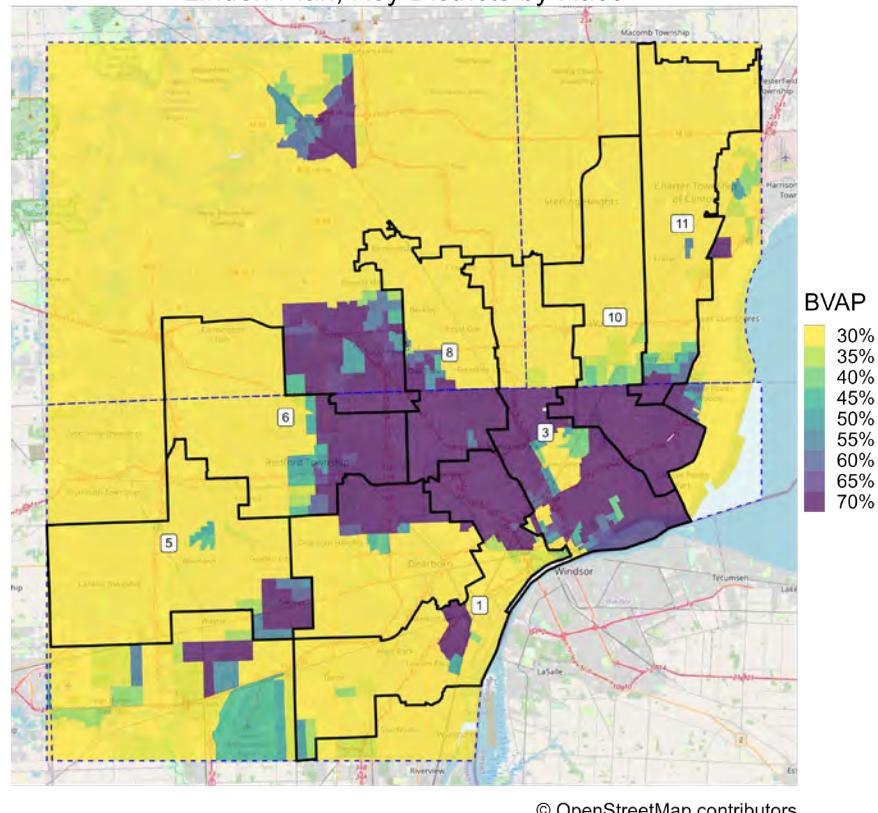
The dot density map illustrates this even more starkly:

96

Figure 45

Population of Macomb/Oakland/Wayne Counties, MI, by Linden Districts
1 Orange 'X' = 25 White Residents of Voting Age, 1 Blue Dot = 25 Black Residents of Voting Age
1 Teal Dot = 25 Hispanic Residents of Voting Age, 1 Black Dot = 25 Asian Residents of Voting Age
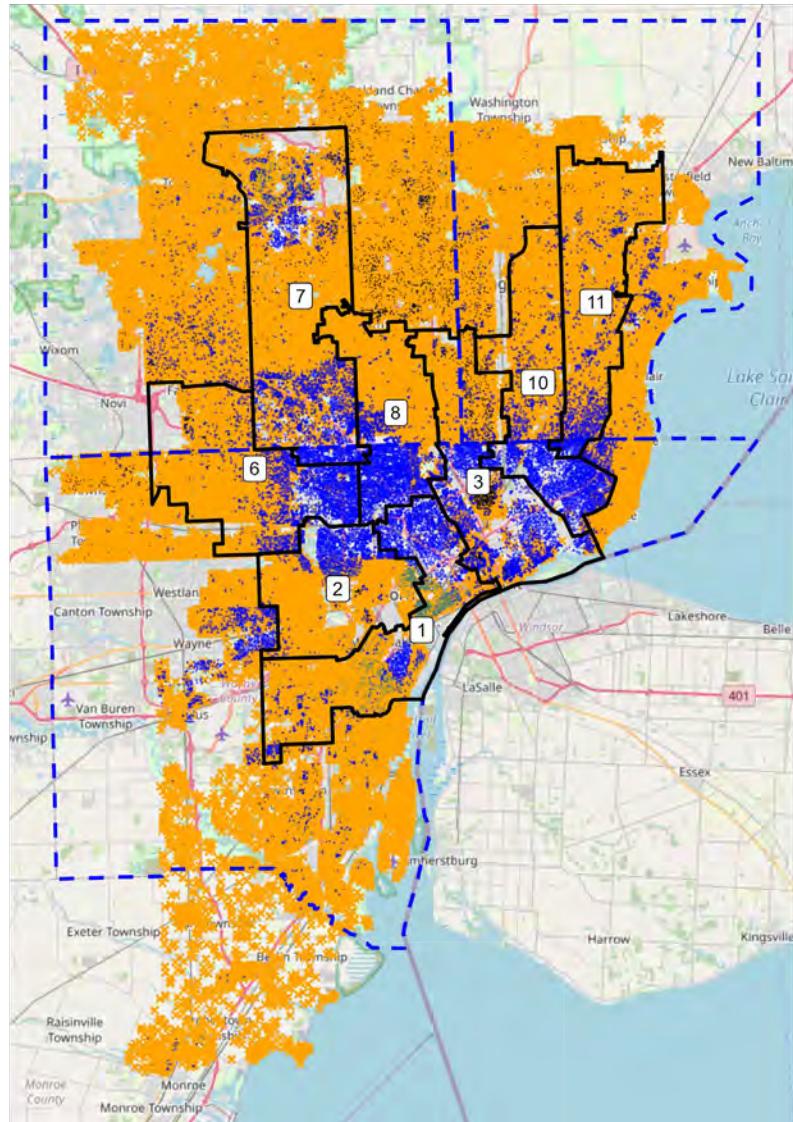
Once again, these features do not exist to improve the partisan performance of the map, as almost all of these precincts are at least Democratic leaning. Instead, they divvy up the voters by race, combining Black precincts in Detroit with White precincts in the suburbs.

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Figure 46

Linden Plan, Key Districts by Presidential Vote, 2020

© OpenStreetMap contributors
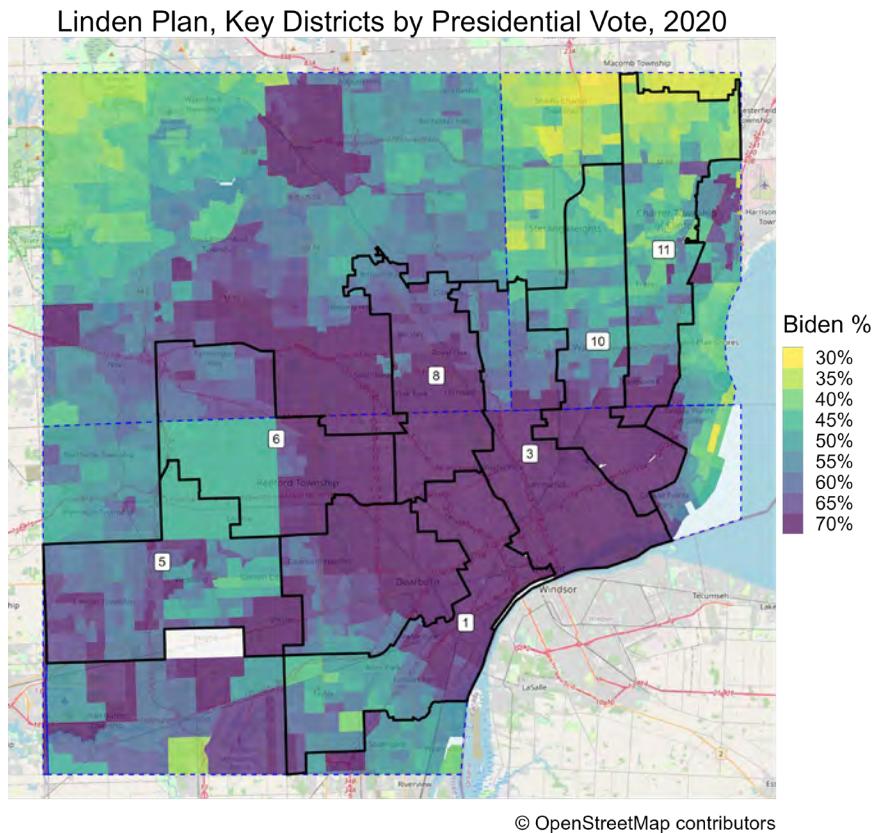
We can once again see how race predominated by examining traditional redistricting criteria individually.

2. Compactness

We begin with another set of the maps above. Again, these show the Detroit area map under the Benchmark Plan map and the Linden Plan map, with the maps broken down into districts.

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Figure 47

Detroit Area Benchmark Senate Districts, by BVAP and Compactness

Titles = Reock Scores,
Labels = District Numbers
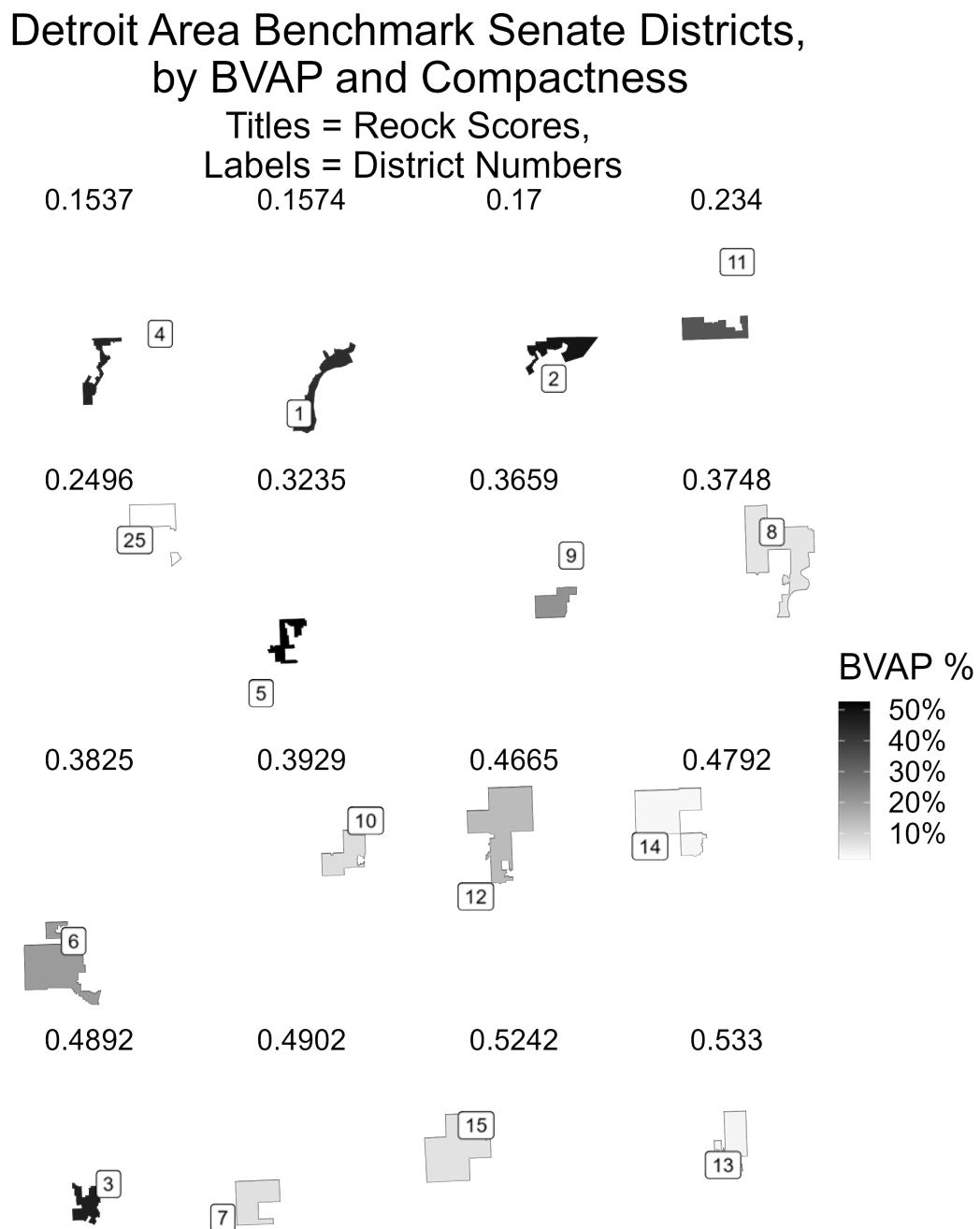
Figure 48

Detroit Area Linden Districts,
by BVAP and Compactness
Titles = Reock Scores,
Labels = District Numbers

100
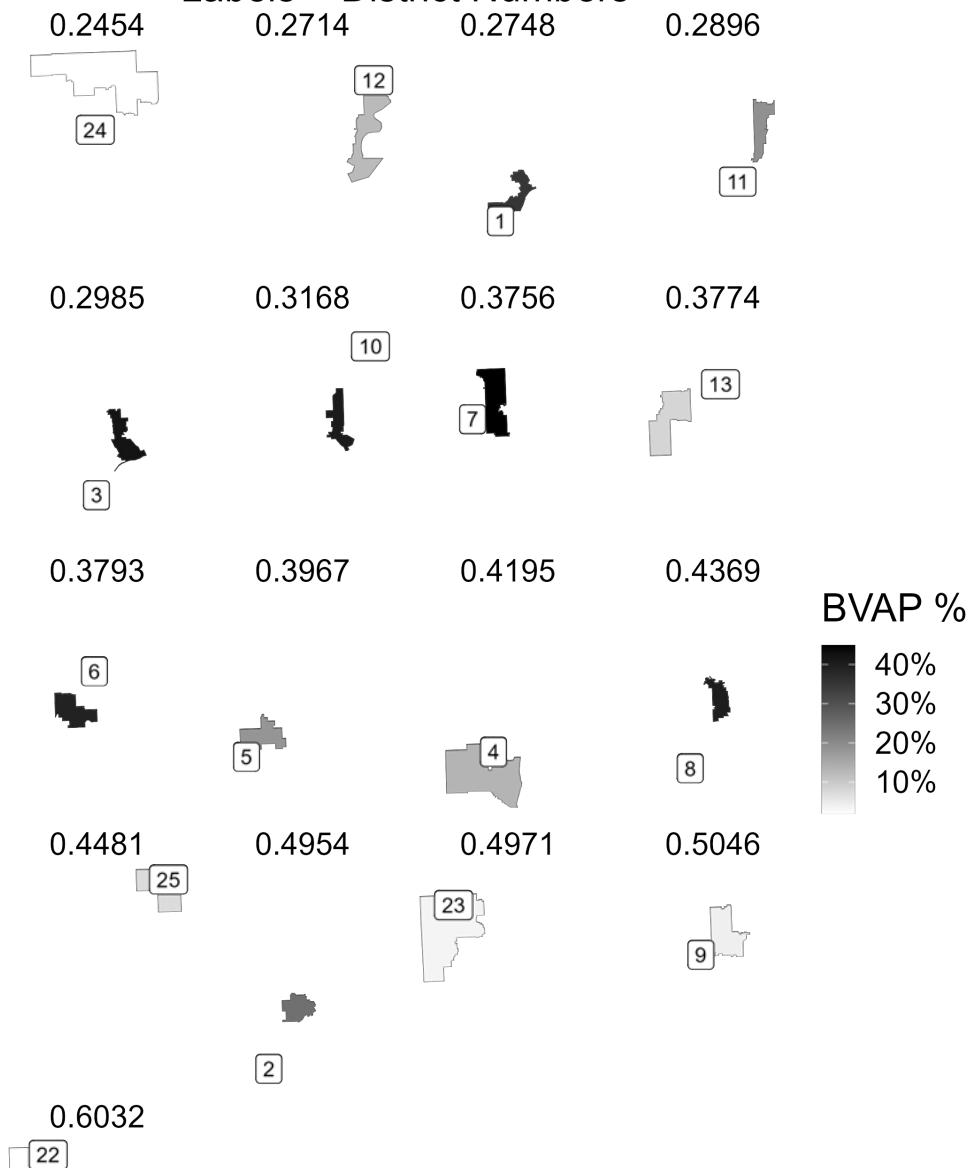
Under both maps, the districts with high BVAPs are located toward the top of the list, indicating that those districts generally performed the worst on the Reock scores. The same is true with Polsby-Popper scores:

<div align="center">Figure 49</div>

Detroit Area Benchmark Senate Districts, by BVAP and Compactness
Titles = Polsby-Popper Scores, Labels = District Numbers

<div align="center">101</div>

Figure 50

Detroit Area Linden Districts, by BVAP and Compactness
Titles = Polsby-Popper Scores,
Labels = District Numbers
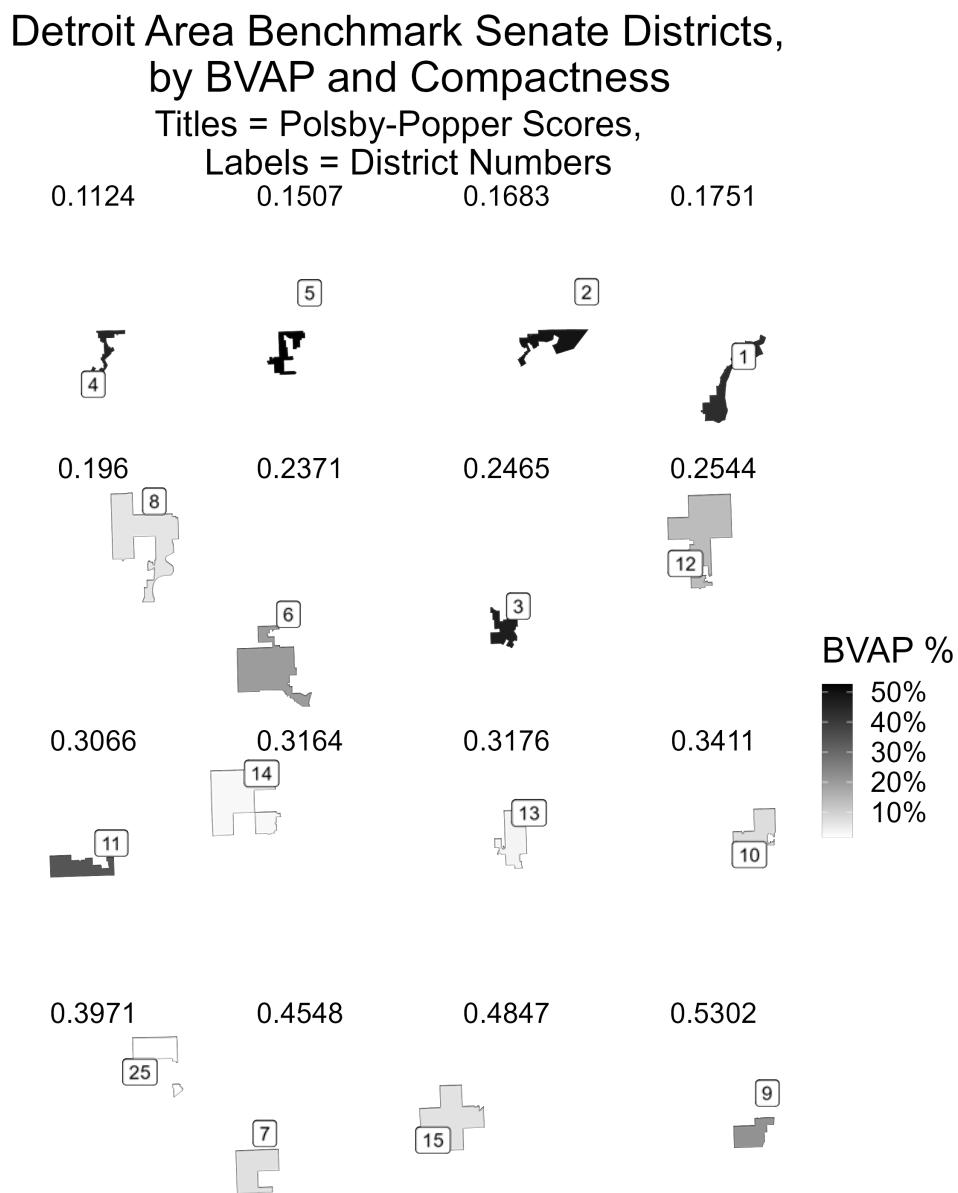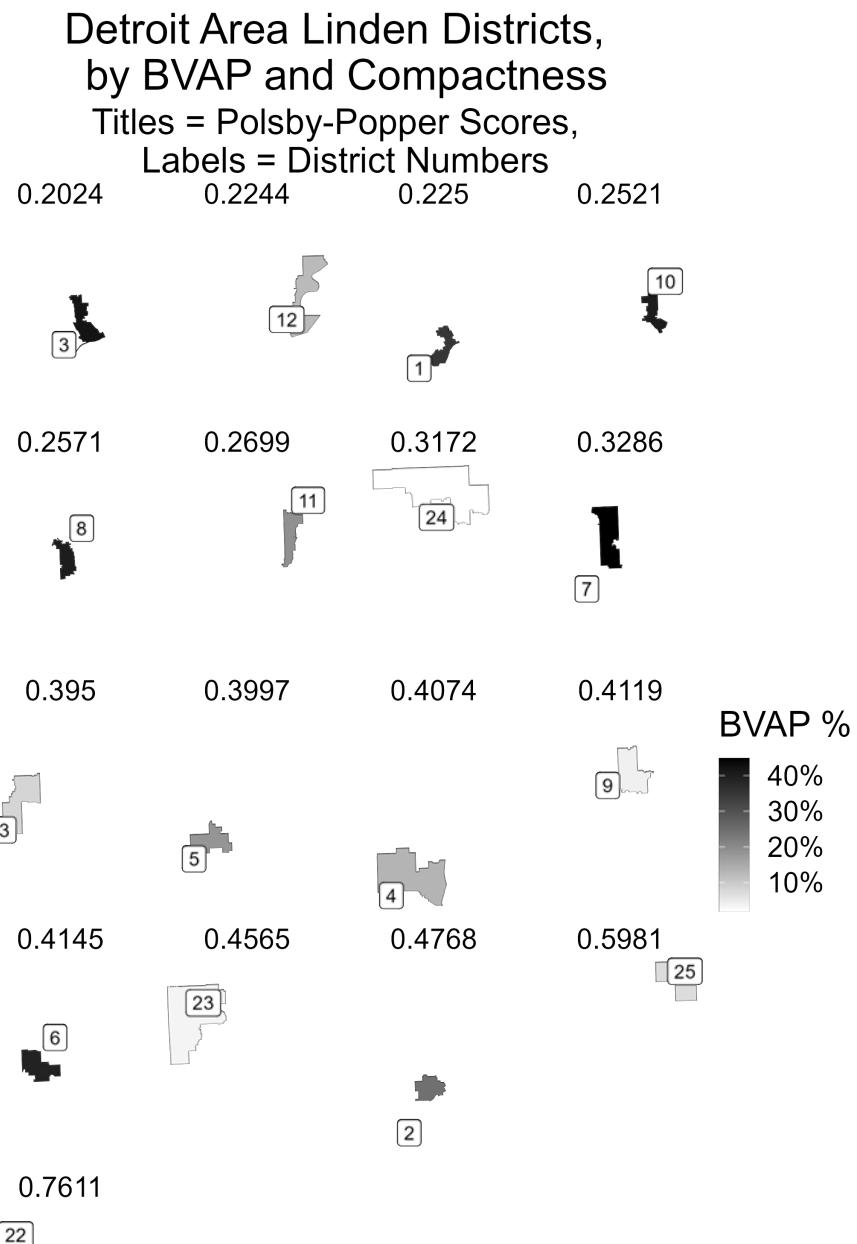
Finally, we see the same trend with the MAGiK scores.

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Figure 51

Detroit Area Benchmark Senate Districts,
by BVAP and Compactness
Titles = MAGiK Scores,
Labels = District Numbers

103

Figure 52

Detroit Area Linden Districts,
by BVAP and Compactness
Titles = MAGiK Scores,
Labels = District Numbers
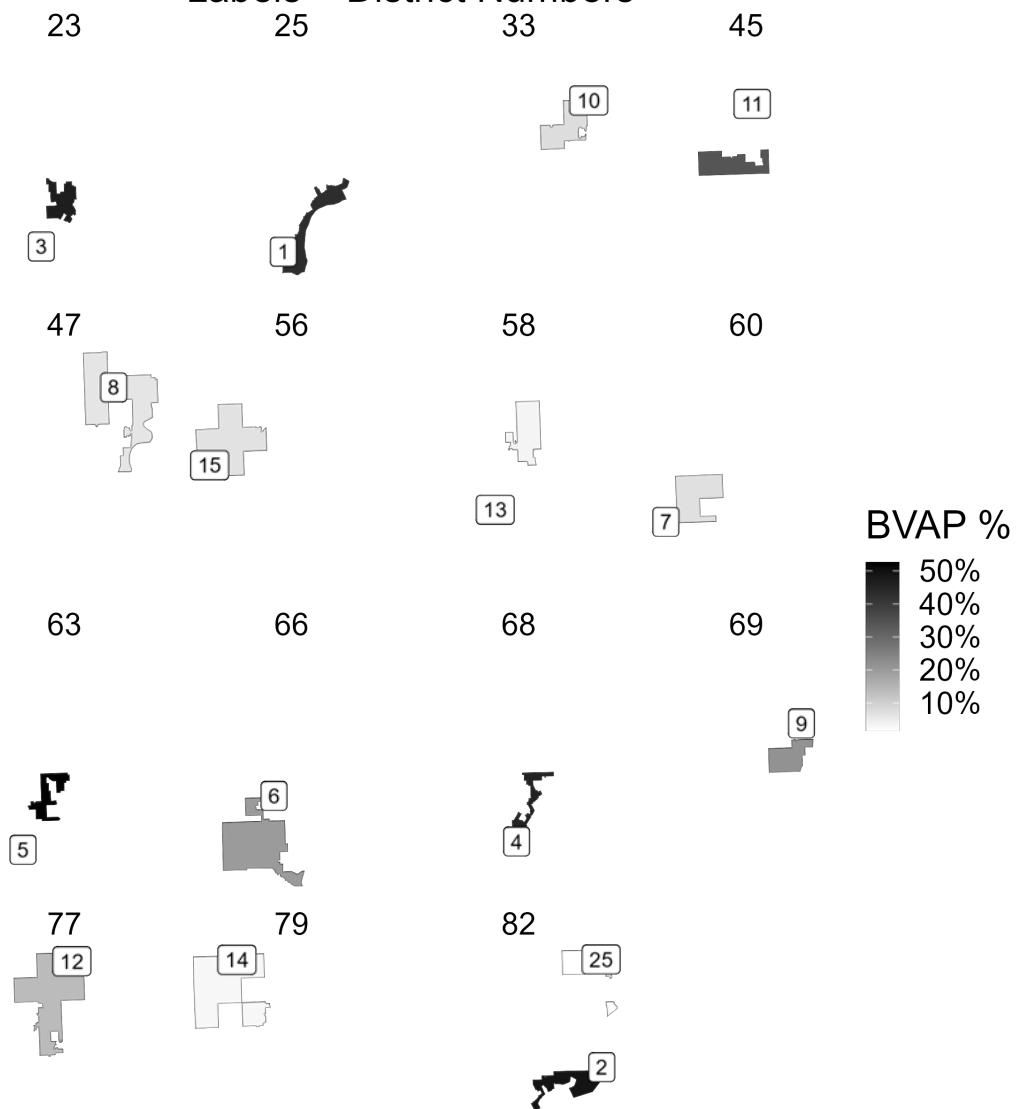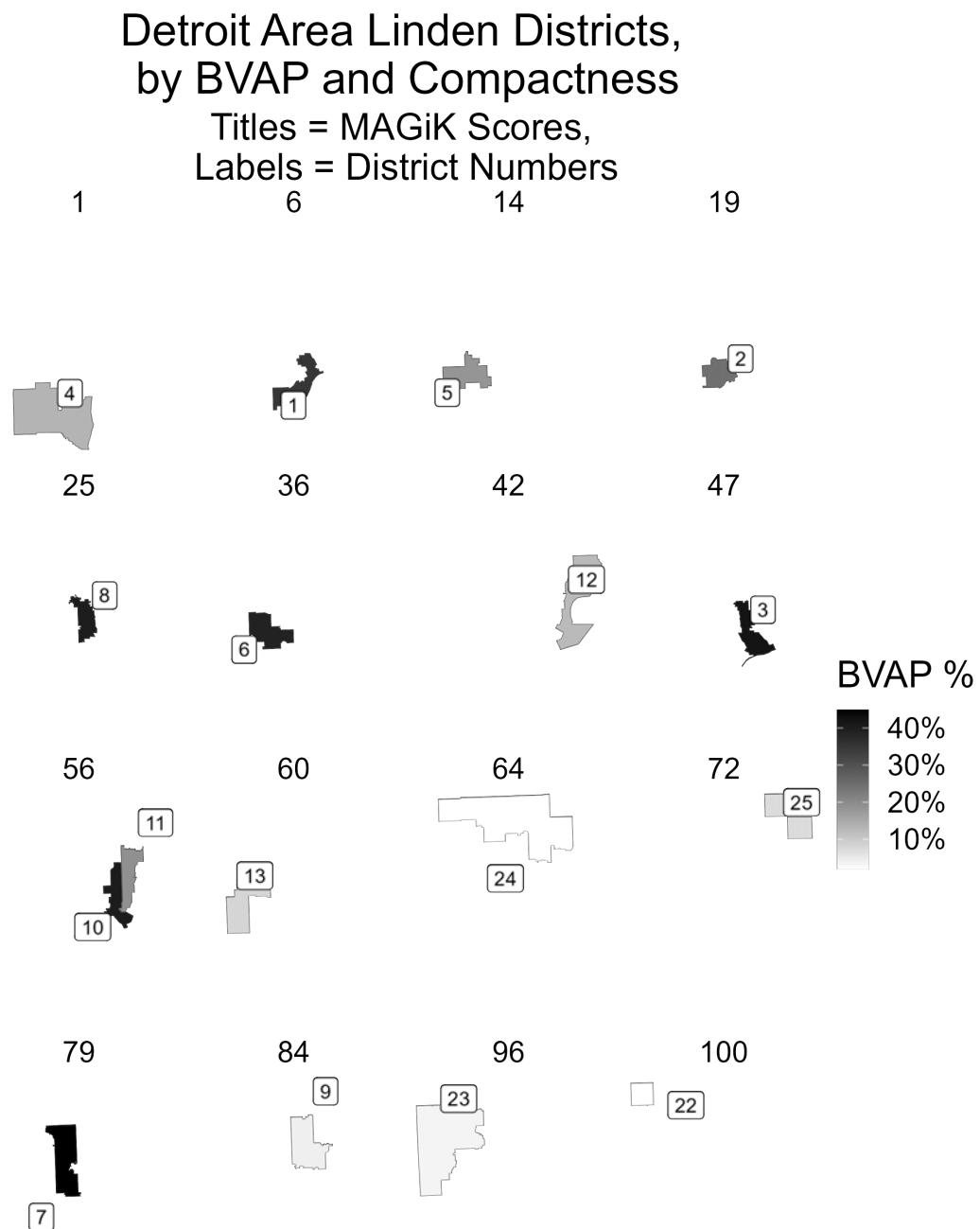
Rather than eyeball the data, though, we can run the regression analyses described above for House districts. Once again, we see the negative correlations between BVAP and compactness

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score, under the Polsby-Popper scores.   This suggests some degree of subordination of compactness to race; as the districts had larger and larger BVAPs, the compactness of the districts tended to decline.

Table 24

Regression Results, Compactness vs. BVAP, Detroit Benchmark Senate Districts		
Test	Coefficient	P-value
Reock	−0.864	0.014
Polsby-Popper	−0.975	0.009
MAGiC	−0.002	0.416

Table 25

Regression Results, Compactness vs. BVAP, Detroit Linden Districts		
Test	coefficient	pvalue
Reock	−0.562	0.167
Polsby-Popper	−0.612	0.02
MAGiK	−0.002	0.037

The results of the statewide maps tell a similar story. This time, it is the MAGiK scores that show the significant relationship, suggesting that, compared to the state as a whole, as interest in race increased, interest in compactness decreased.

Table 26

Regression Results, Compactness vs. BVAP, All Benchmark Senate Districts		
Test	Coefficient	P-value
Reock	−0.553	0.006
Polsby-Popper	−0.292	0.042
MAGiK	−0.003	0

Table 27

Regression Results, Compactness vs. BVAP, All Linden Districts		
Test	Coefficient	P-value
Reock	0.080	0.743
Polsby-Popper	−0.179	0.298
MAGiK	−0.002	0.037

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Note that in all of these situations, the Linden plan is more compact, at least in the Detroit area, than the Benchmark Plan. This is because, under the Benchmark Plan, the Detroit area African-American districts tend to have strange shapes. But as noted above, there are likely five Black VRA districts available in Detroit; these shapes likely reflect a desire to comply with the VRA; the more compact districts under the Linden Plan reflect a lack of concern with this.

Regardless, under the Reock metric, districts 1 (#6), 11 (#9) and 3 (#10) are among the least compact districts in the state; this is more striking when you consider that districts 38 (#2) and 37(#4) are located on or around the Upper Peninsula and have little choice in their shapes; 32 (#5) is likewise a coastal district. Using Polsby-Popper, districts 3 (#4), 1 (#5), 10 (#6), 8 (#7) and 11 (#8) are also in the top ten; 37 and 38 once again take the top two spaces. Using the Kaufman-King index, District 3 (#1), District 1 (#2), District 10 (#4), District 11 (#7) and District 8 (#9) are among the ten least compact districts in the state. All seven challenged districts are in the bottom half in terms of compactness.

3. County Splits

Under the previous Senate map, 17 districts crossed county lines. None of the districts that cross county lines are in the Detroit area. Under the Linden Plan, that number increases to 31, notwithstanding the fact that the Michigan Constitution requires that due regard be given to county lines. Eight of those additional 14 split districts are on the Wayne County boundary.

Moreover, under the previous plan, only one county – Genesee – is ever split more than once. Under the Linden plan, that number increases to 31, with a total of 88 splits in those counties. Of those 88 splits, a quarter of them – 23 splits – are found in Macomb, Oakland and Wayne counties. The only county with a comparable number of splits is Kent County, which has 4 splits.

4. District Cores

Although not listed among the Michigan criterion, core retention has been listed as a legitimate factor for states to consider when redistricting in federal cases. While there is insufficient evidence to conclude that the Hickory Map subordinates this concern to racial factors, the Linden map does appear to subordinate concerns for this factor to race. We can demonstrate this with two regression analyses. Our first regression analysis asks, which asks "as the BVAP in a Linden plan district increases, does the amount of its core that is held over from the earlier plan also increase?" The answer is "no." The p-value is less than 0.05, and the coefficient is negatively signed. In other words, we would be extremely unlikely to find these data if there were no

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relationship between BVAP and core retention. We therefore conclude that as the BVAP of a district increases, the district will be comprised of less and less of a prior district's core.

Table 28

Regression Results, BVAP vs. Max. Core Retention, Linden Plan			
Characteristic	**Beta**	**95% CI**[1]	**p-value**
BVAP	-0.64	-1.1, -0.20	0.005

[1] CI = Confidence Interval

The same is true if we ask the inverse of that question: "Using the prior plan's districts, as BVAP increases, was a district more likely to be broken up?" The answer there appears to be "yes." The p-value is less than 0.05, and the coefficient is negatively signed. In other words, we would be extremely unlikely to find these data if there were no relationship between BVAP and core retention. We therefore conclude that as the BVAP of a prior district increased, the district was more likely to be split up.

Table 29

Regression Results, BVAP vs. Max. Core Retention, Prior Plan			
Characteristic	**Beta**	**95% CI**[1]	**p-value**
BVAP	-0.53	-0.92, -0.13	0.010

[1] CI = Confidence Interval

5. Simulation Analysis

As with House districts, perhaps the best way to see whether the commission subordinated race to other considerations is with a simulation analysis. For my analysis of the Detroit-Area Senate plans, I once again selected Senate districts from Wayne and adjoining counties, and then districts that bordered them. These constituted 19 districts, or about half of the Senate.

I once again created an ensemble of 50,000 maps from these precincts, each of 19 districts. As with the Hickory Plan, the Linden plan creates numerous outliers.

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Figure 53
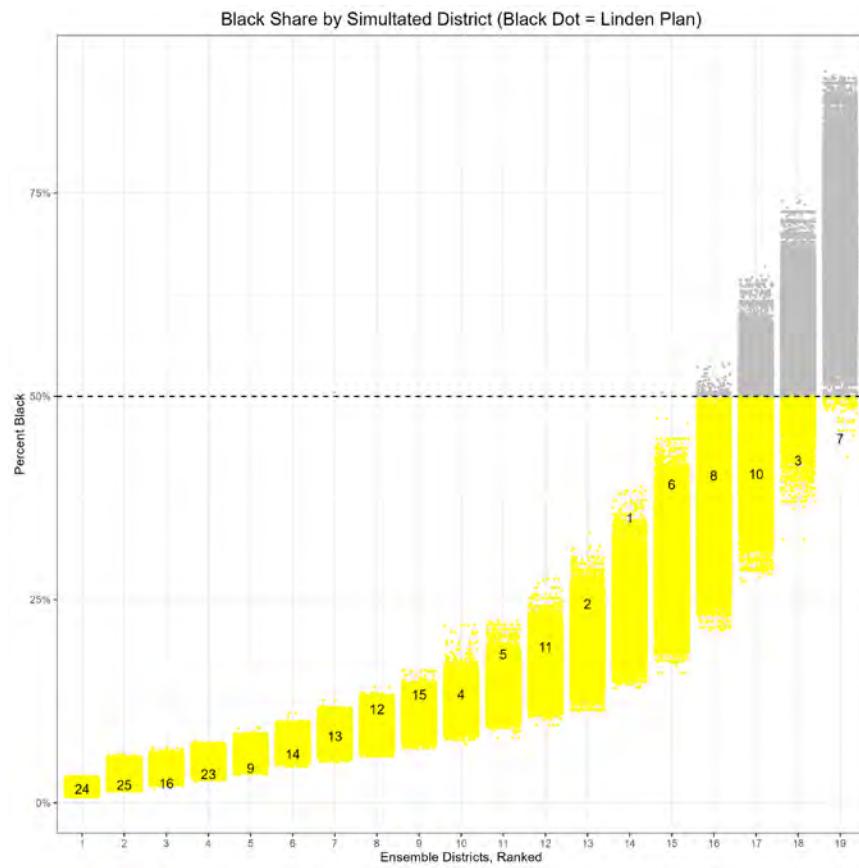
We first begin with the simulations where county lines are ignored. As with the Hickory Plan, the Linden Plan produces outliers with respect to race. We would expect at least three minority-majority districts with the Linden plan if it were drawn without consideration of race, as opposed to the zero that are actually contained in the Linden plan. The districts a familiar pattern; the 1st, 2nd, 3rd and 4th most heavily Black districts are made less heavily Black than we would expect, while the next three districts are significantly whiter than we would expect. The racial gerrymandering index again makes this plain.   The Linden plan produces greater deviations in the racial composition of its districts from the mean distribution of maps than almost any map in the ensemble. Note the concentration around the 40% mark – again reflecting the instructions relayed in the Szetela report to draw districts down to a 40% target.

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JA00415

Figure 54

Values of Racial Gerrymandering Index, Simultated senate Maps (Red Line = Linden Plan)
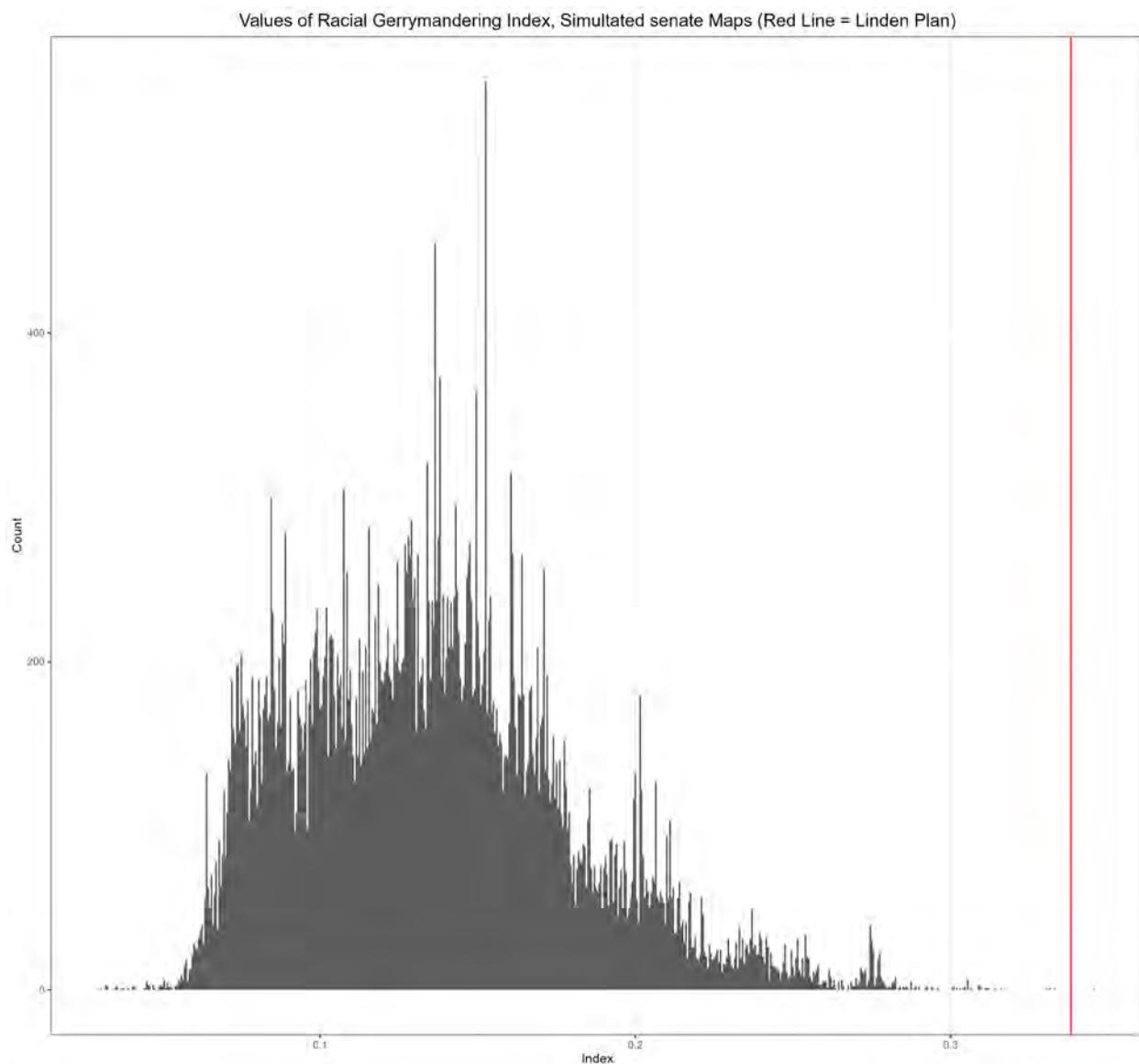
When we tell the simulations to pay attention to county boundaries, we see even more extreme deviations.

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Figure 55

Black Share by Simulated District (Black Dot = Linden Plan), Counties Intact

110
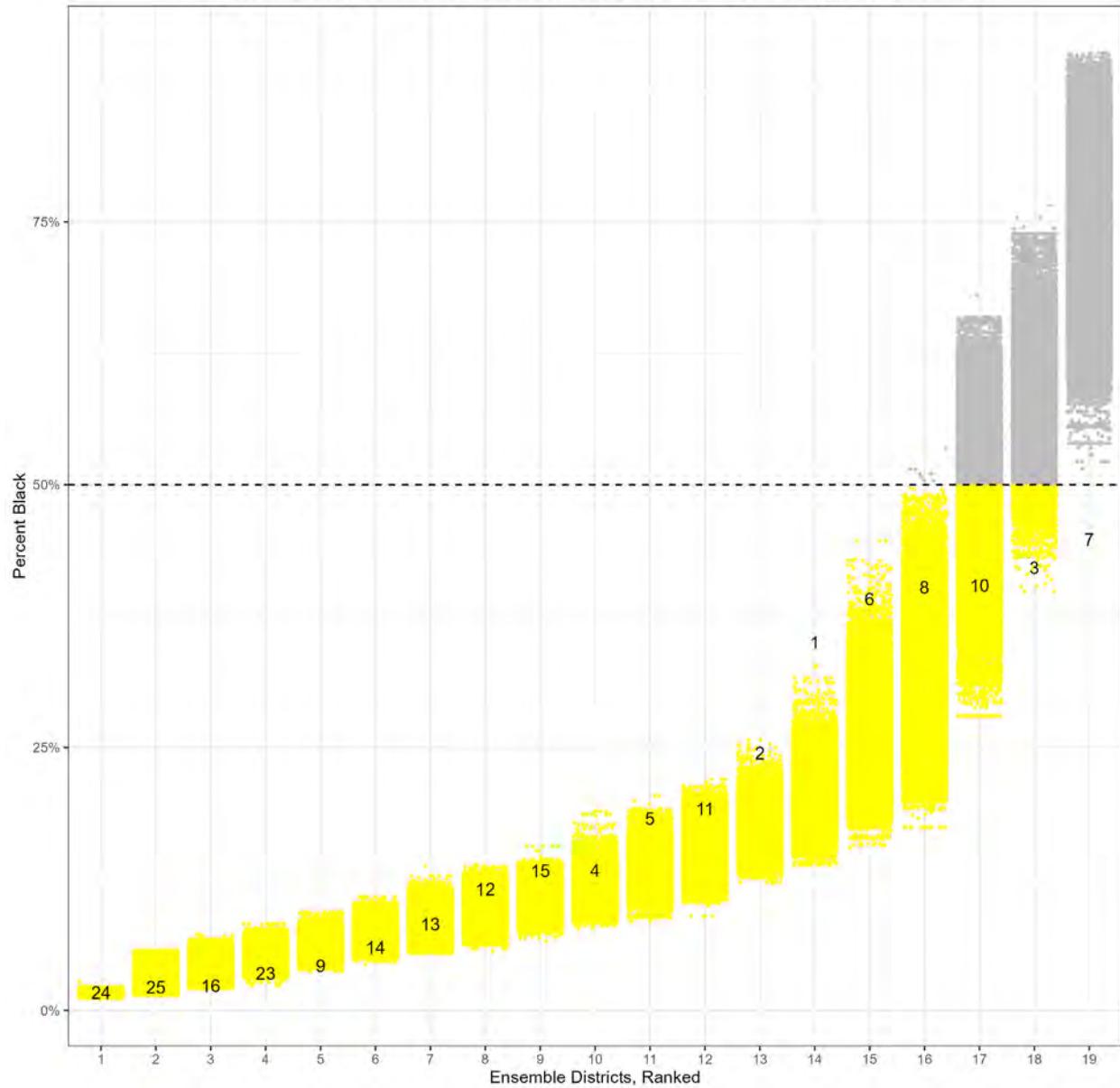
Figure 56
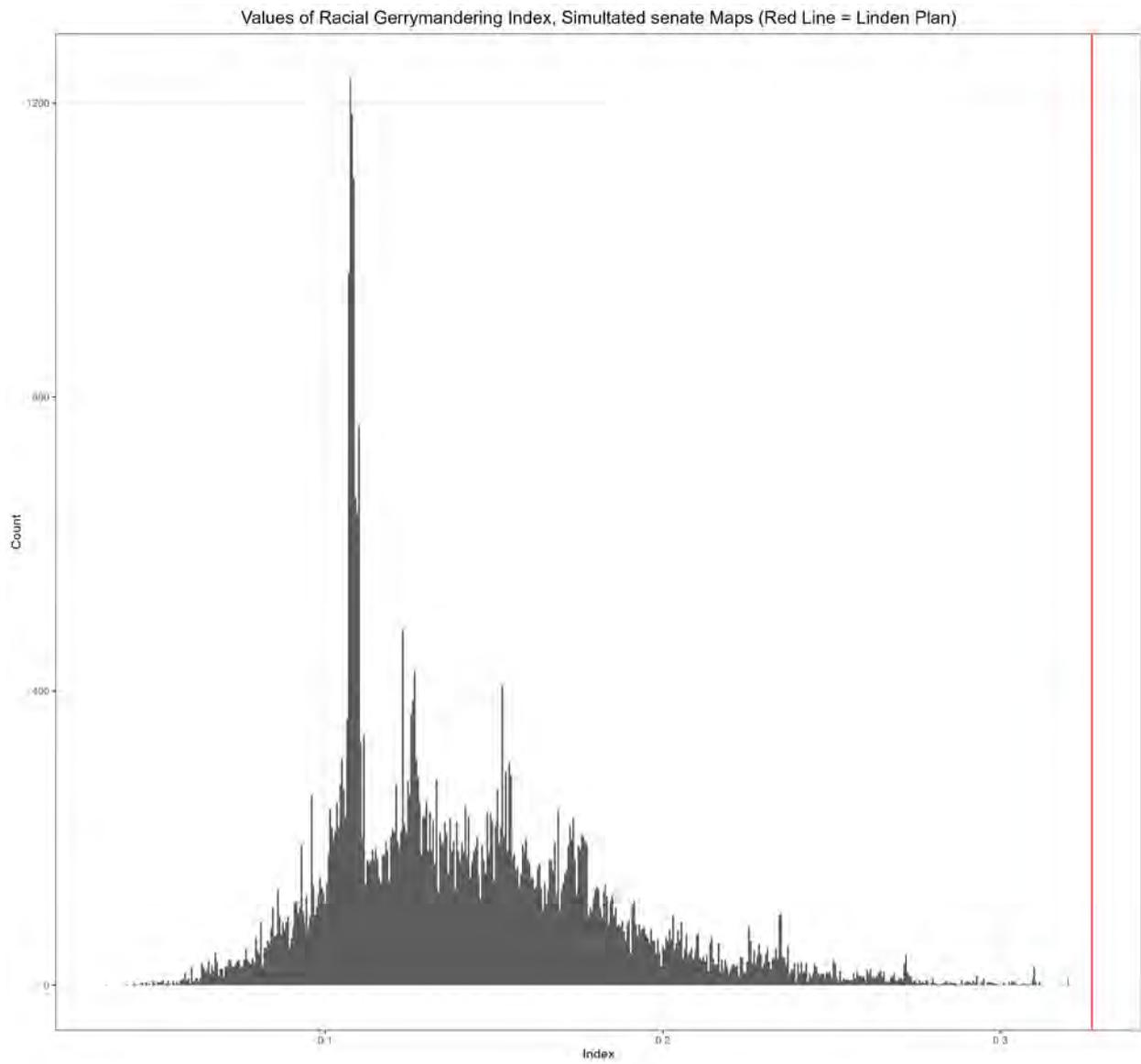
Once again, this cannot be justified by a supposed desire to achieve a political outcome. While there are significant deviations, those deviations do not occur in the areas where they would significantly affect political outcomes.   Instead, they occur in the most heavily Democratic districts. In other words, this is once again a case where the political deviations are almost certainly driven by the racial considerations.

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Figure 57

Democratic Vote Share by Simultated District (Black Dot = Linden Plan), Counties Intact

112

Figure 57

Democratic Vote Share by Simultated District (Black Dot = Linden Plan), Counties Intact

113

Figure 58

Values of Gerrymandering Index, Simultated Maps (Red Line = Linden Plan)

114
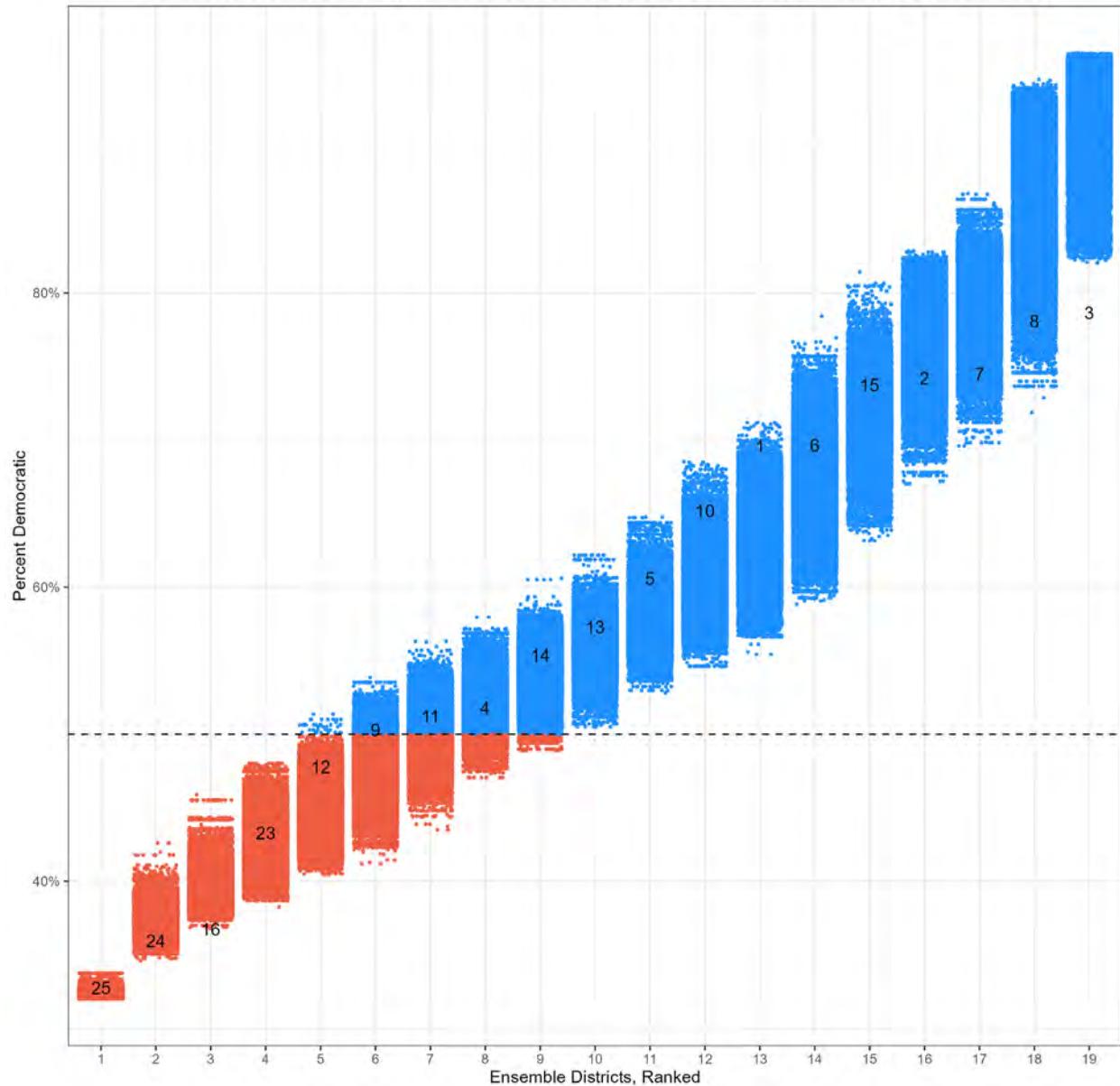
Figure 59

Values of Racial Gerrymandering Index, Simultated senate Maps (Red Line = Linden Plan)
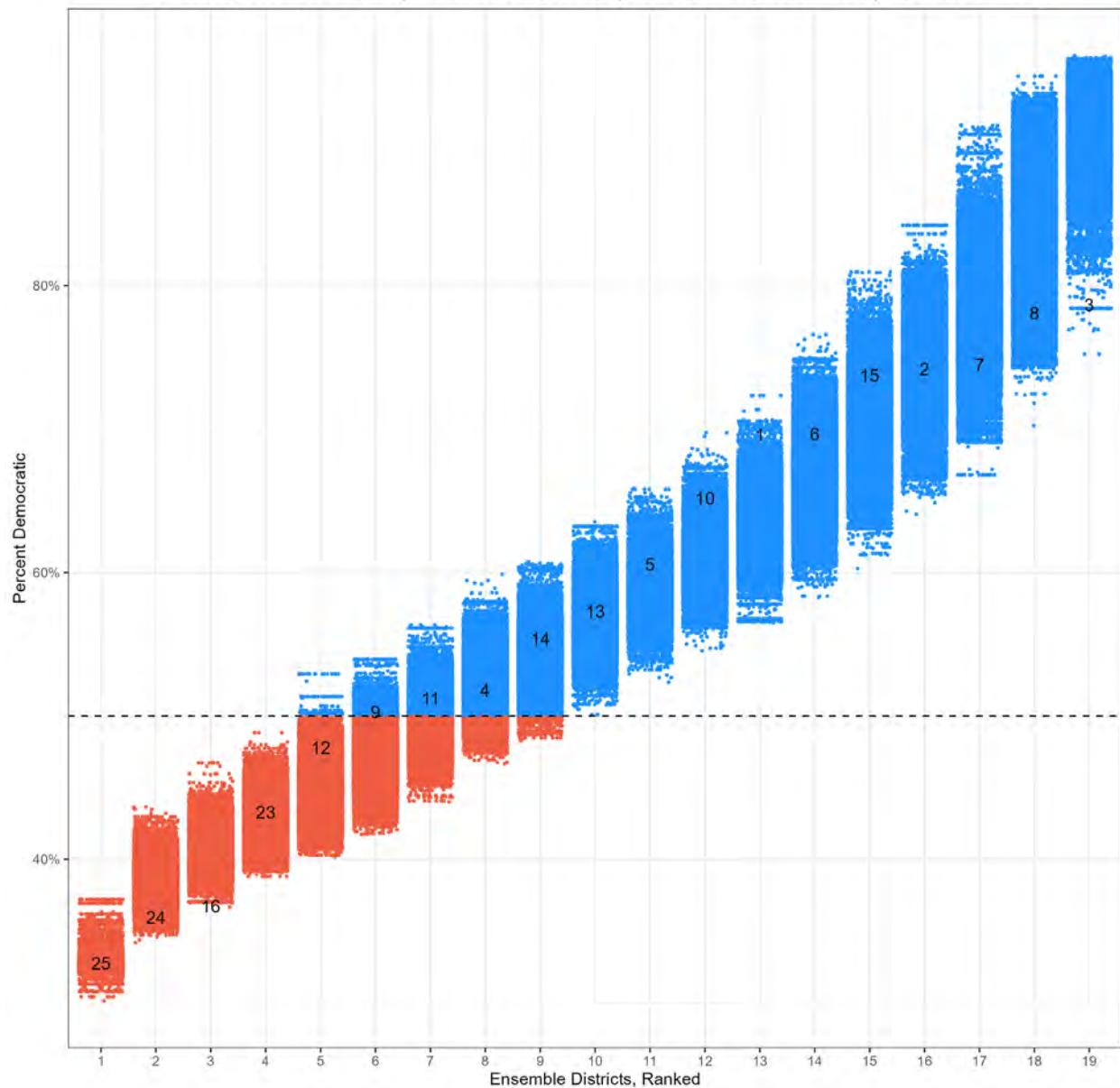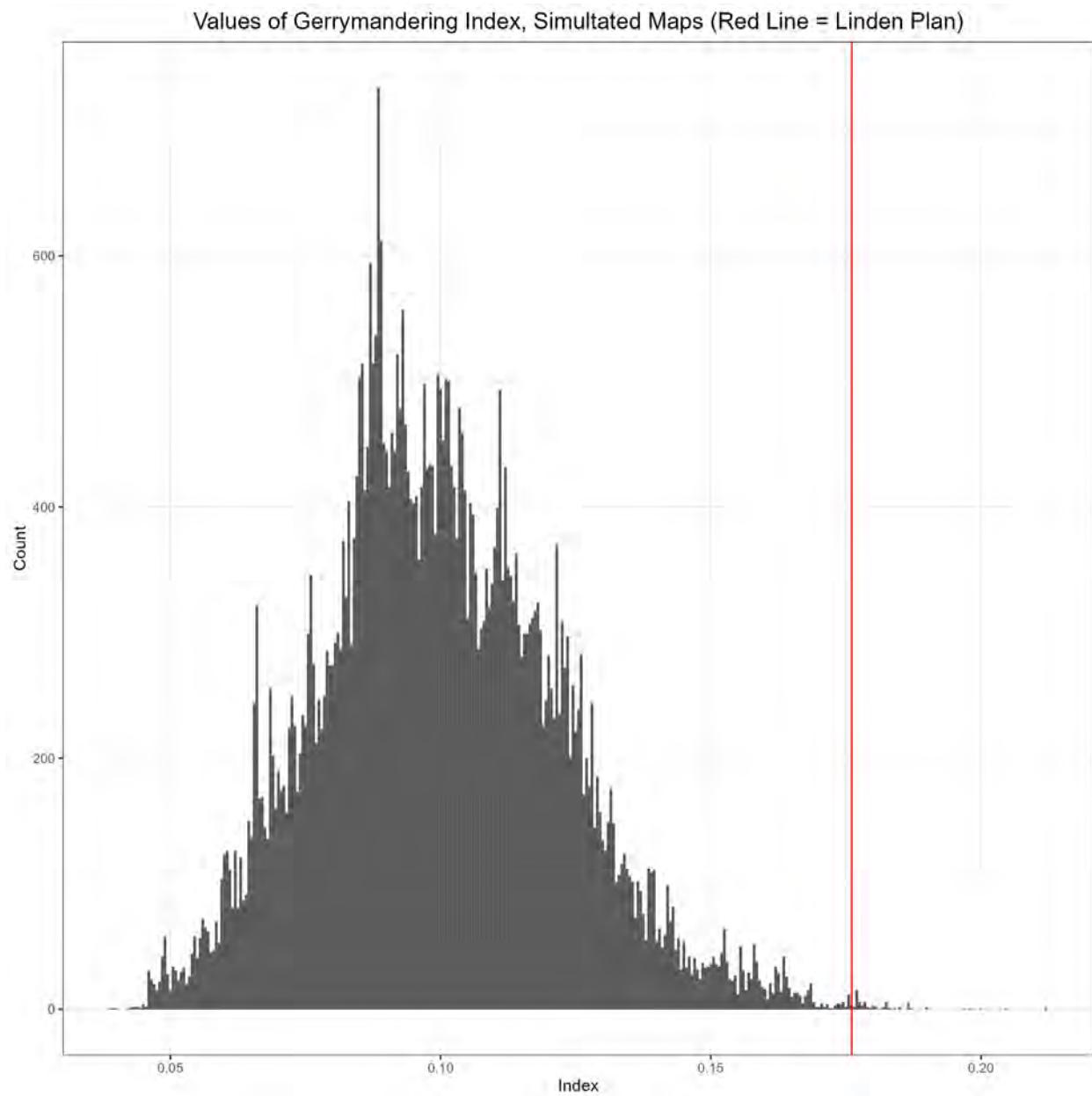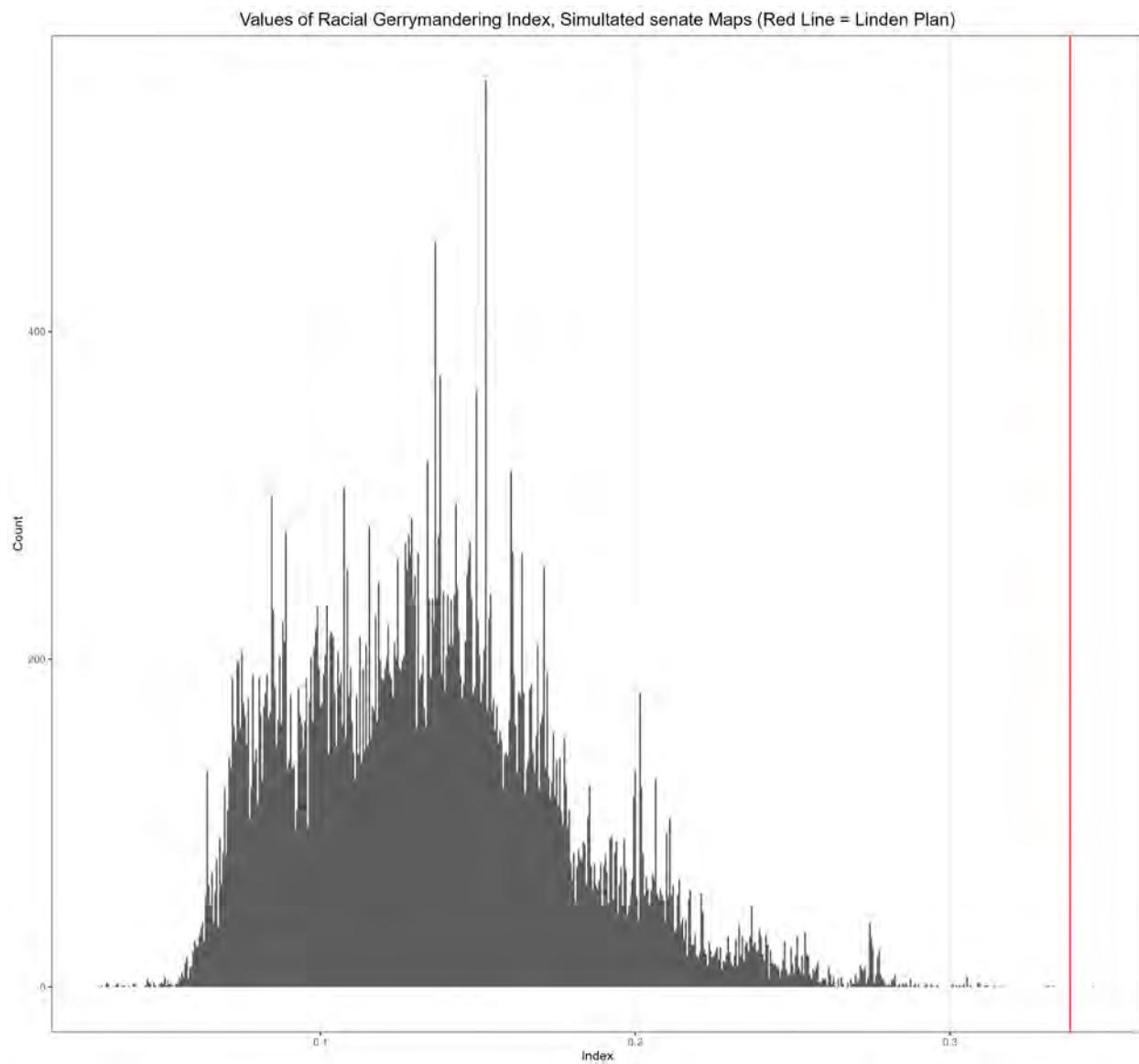
Finally, controlling for cities and townships changes nothing:
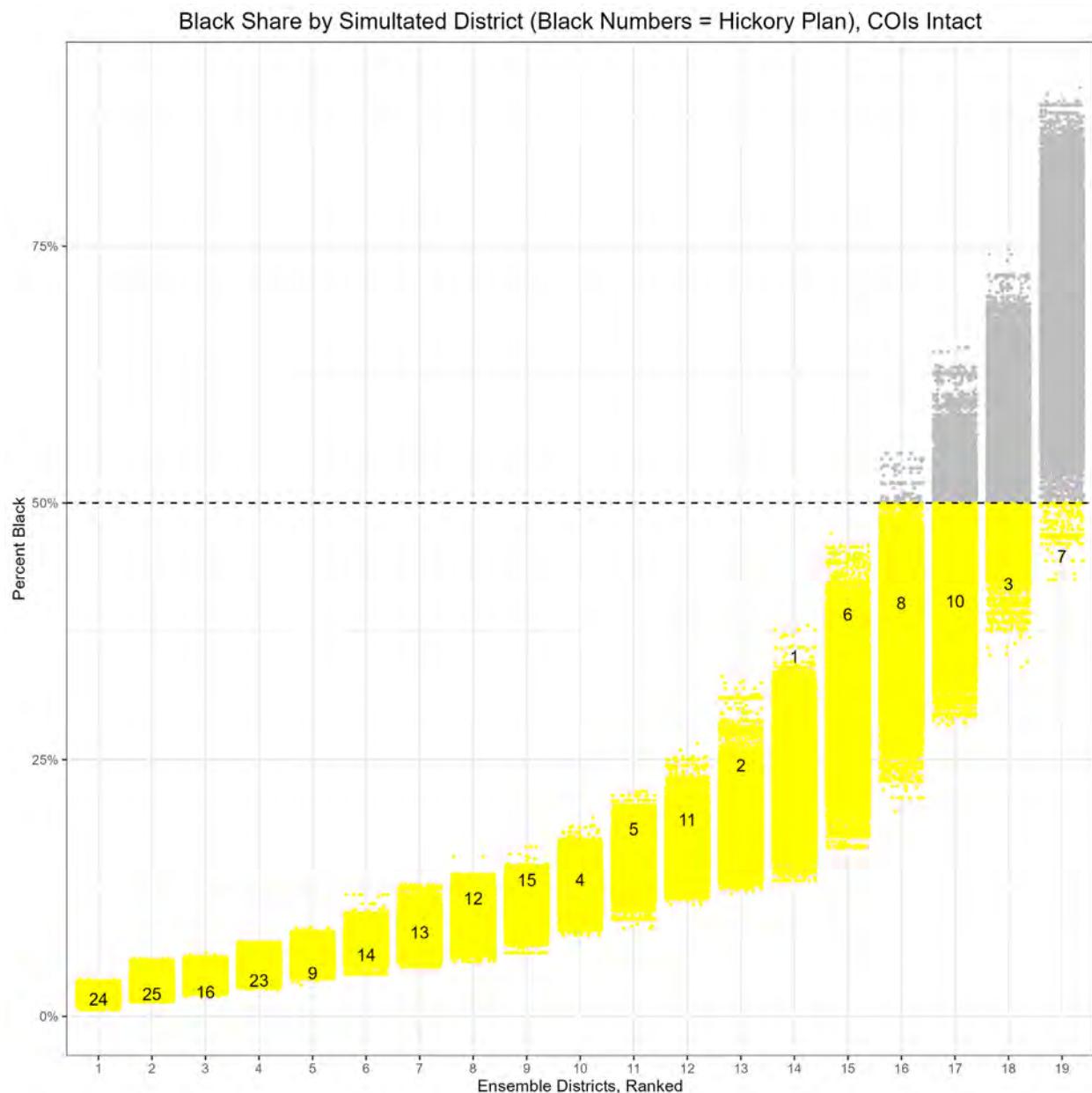
115

Figure 60

Black Share by Simultated District (Black Numbers = Hickory Plan), COIs Intact

Figure 61

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Figure 62

Democratic Vote Share by Simulated District (Black Numbers = Linden Plan), COIs Intact

118

Figure 63

Values of Gerrymandering Index, Simultated Maps (Red Line = Linden Plan), Counties Intact
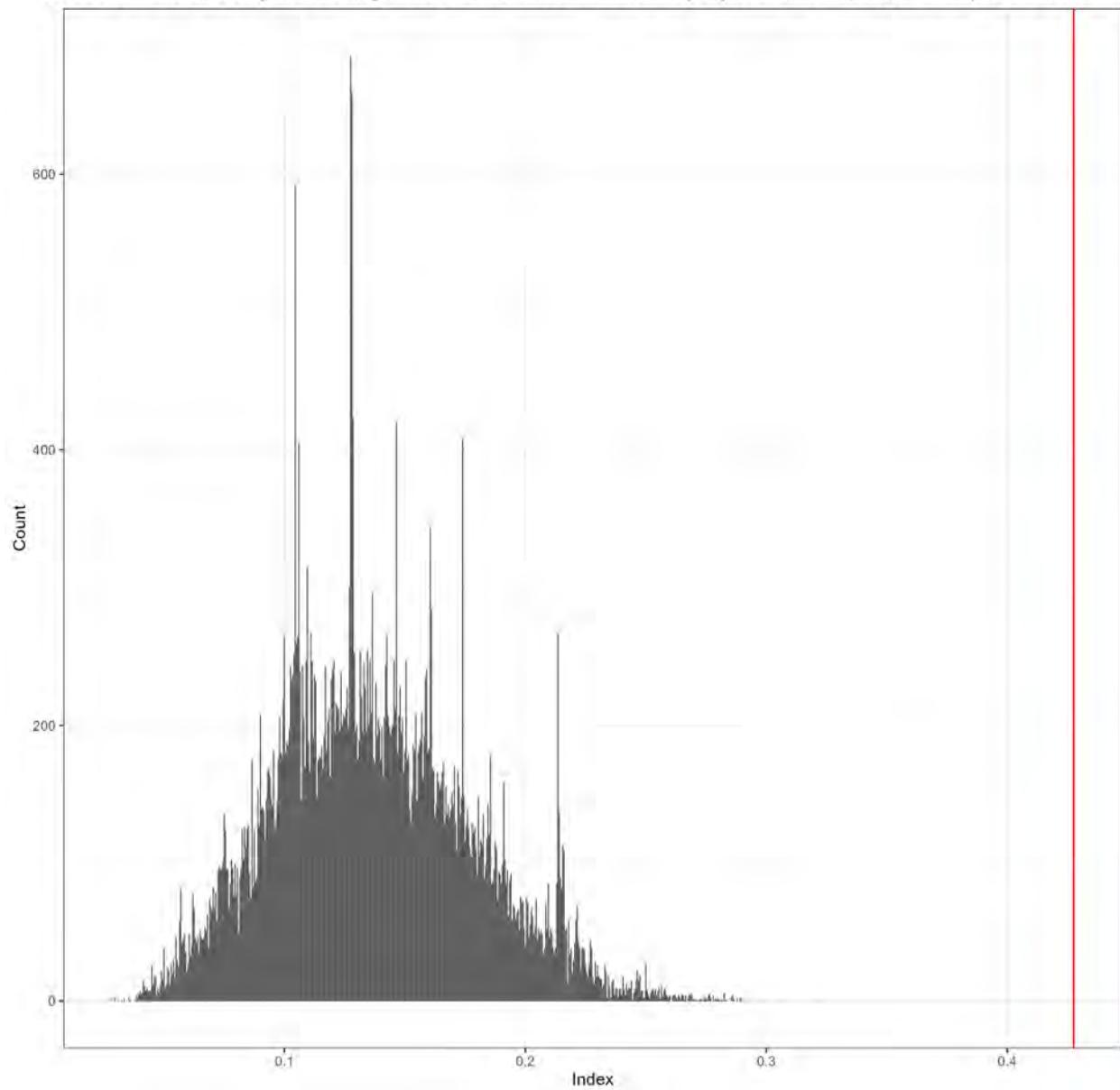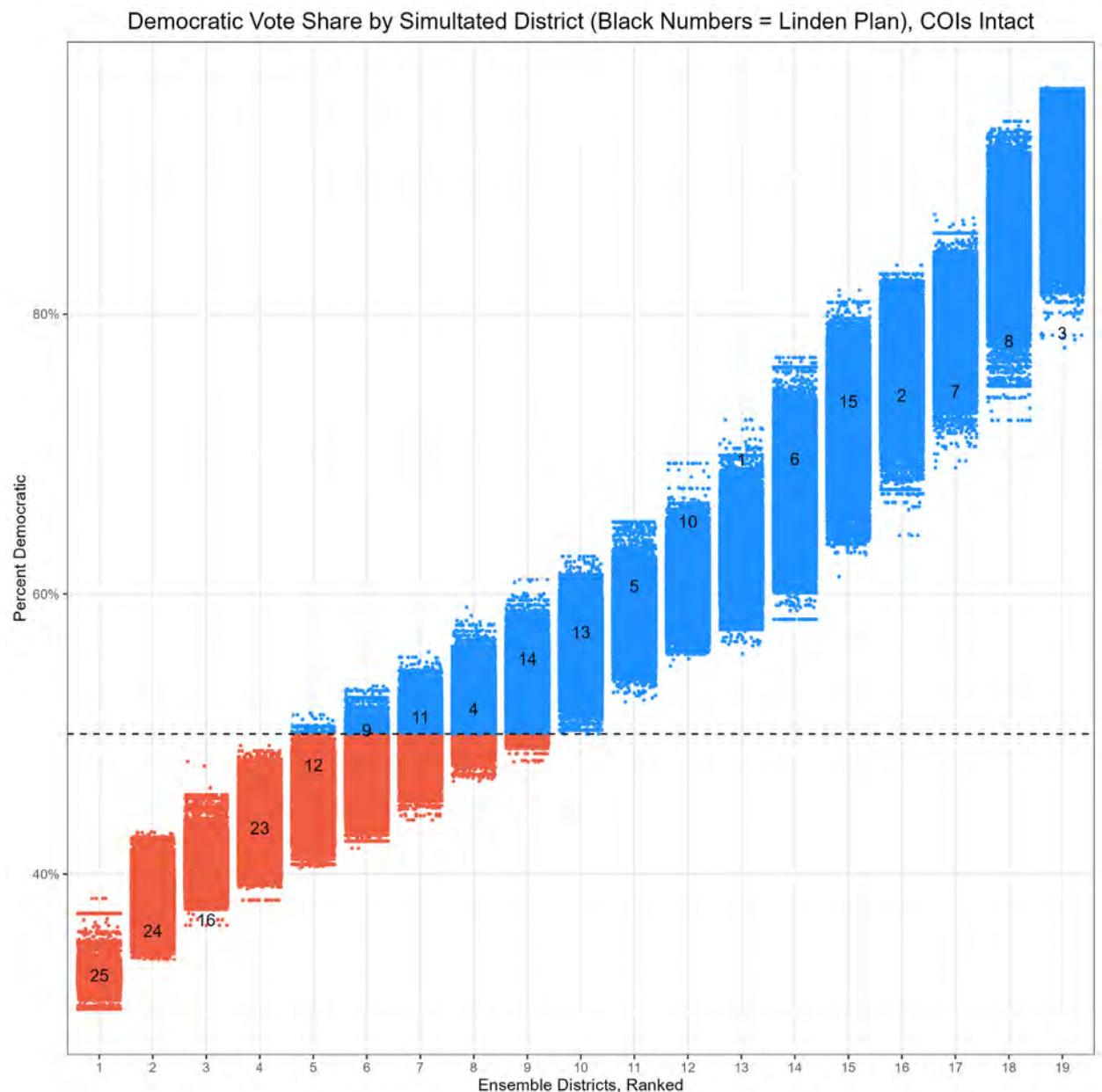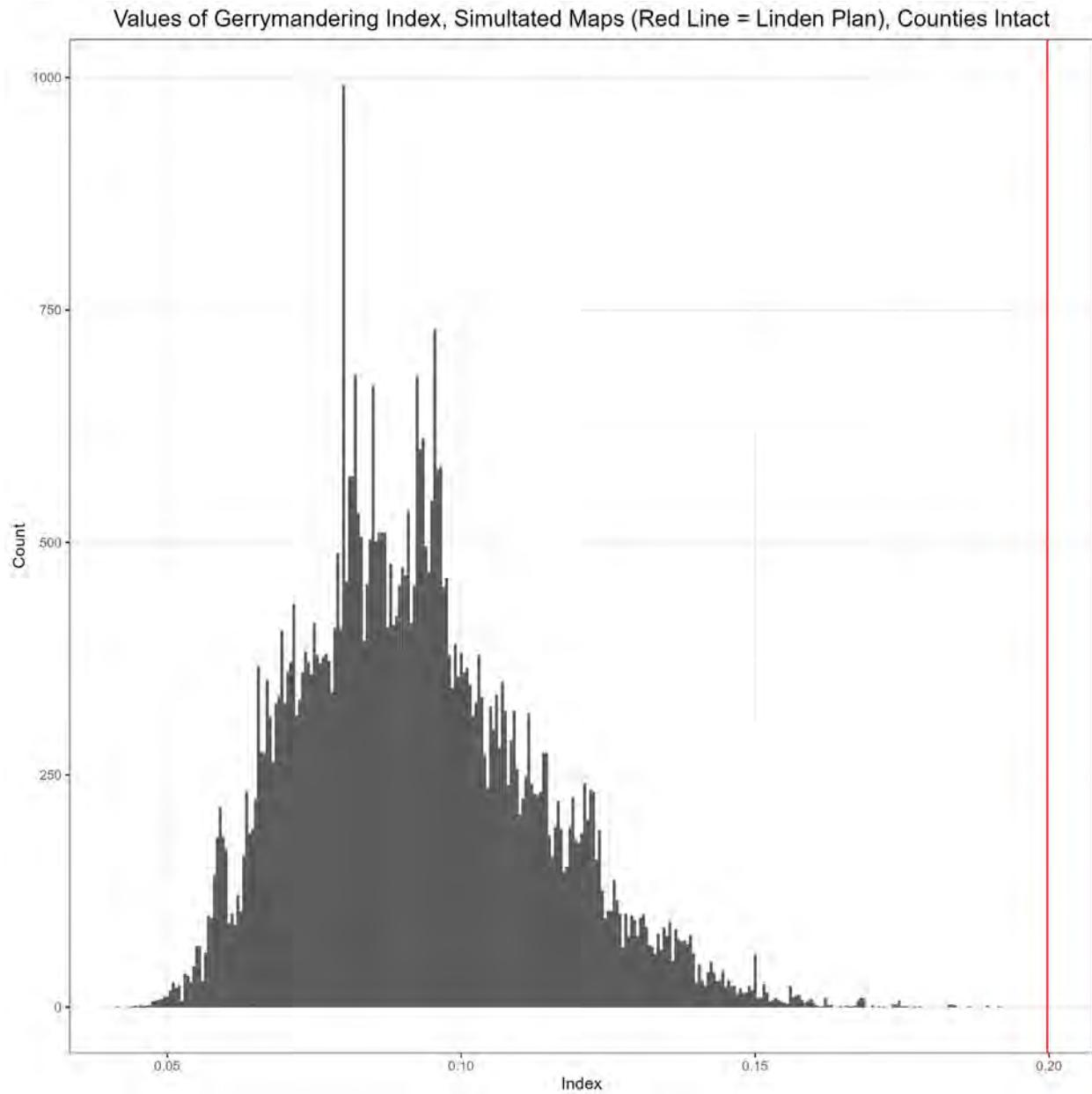
VIII.   Conclusion

It is possible to draw ten House districts in the Detroit area and five Senate districts with majority BVAPs. There is ample evidence of racially polarized voting in Detroit Democratic primaries. The Voting Rights Act would therefore demand ten districts where African-American

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voters are able to elect their candidates of choice (assuming the Senate factors are satisfied, which, to my understanding, is the subject of another expert report). Instead, the Linden and Hickory Plans reduce BVAPs in districts even further from already precarious levels, diminishing the likelihood that Black voters could elect their candidates of choice. This is exactly what happened in 2022, as the Black Michigan Legislative Delegation dropped 20% in a single election, from 20 to 16. With future races shaped by term limits, that number will fall further.

Equally important, this was not an accident. Both qualitative and quantitative analyses of the districts demonstrate that traditional redistricting criteria were subverted to the goal of drawing districts based on race. These bizarrely-shaped districts result in racial breakdowns that are extremely unlikely to have occurred under a race-neutral draw. Moreover, they do not appear to have been necessary to achieve the political outcome that the MICRC preferred, given that the districts resemble a map drawn without respect to politics, especially in key, competitive areas.

  /s/ Sean P. Trende

Sean P. Trende

1/18/2023

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JA00427

Appendix C

Demonstration Plan Details

1

## Proposed Exemplar Map, District 11
Black = 13.2%; Non-Hispanic White = 58.9%; Hispanic = 22.54%; Non-Hispanic A

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12
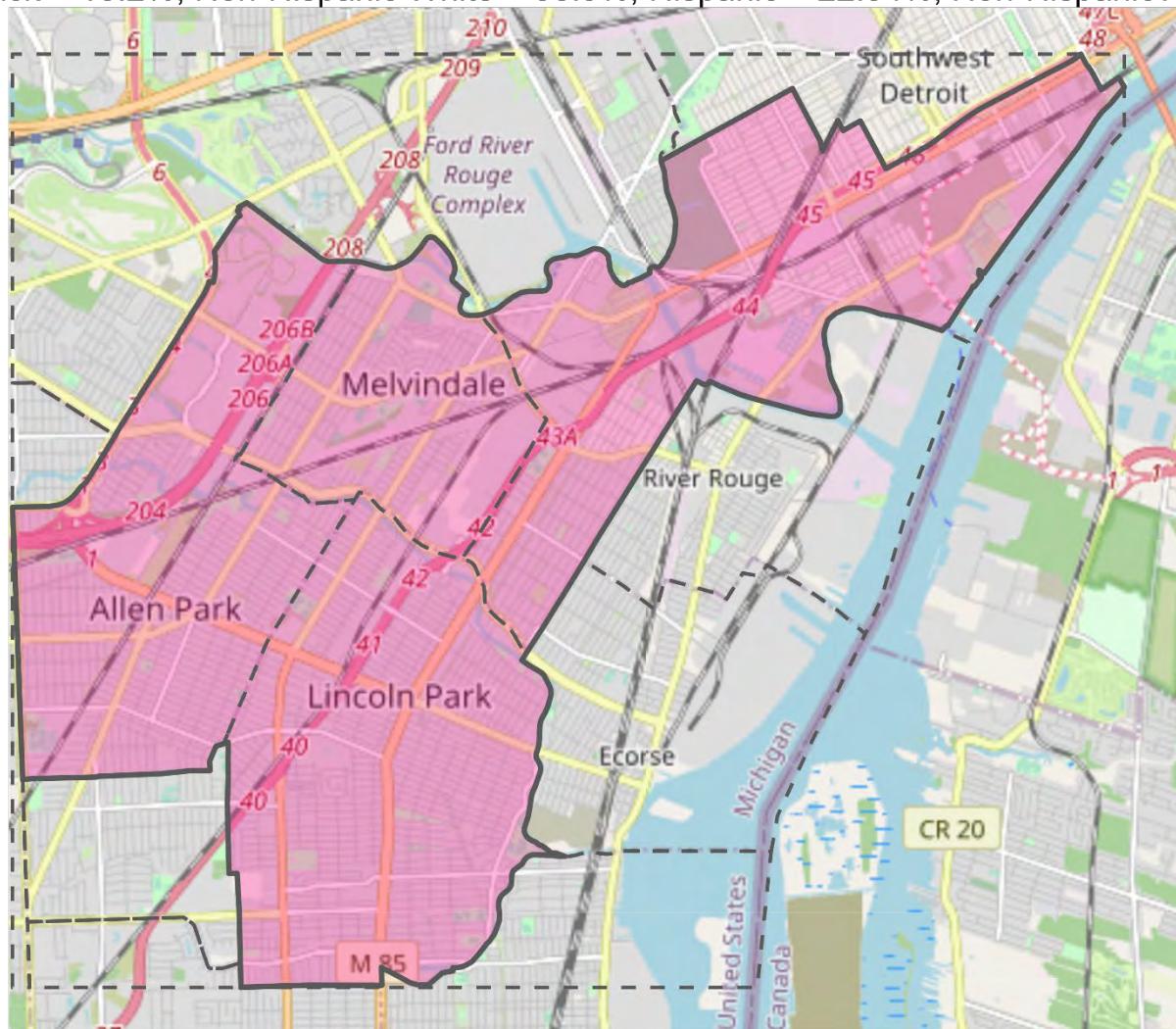
## Proposed Exemplar Map, District 12
Black = 11.63%; Non-Hispanic White = 74.39%; Hispanic = 8.17%; Non-Hispanic /

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13
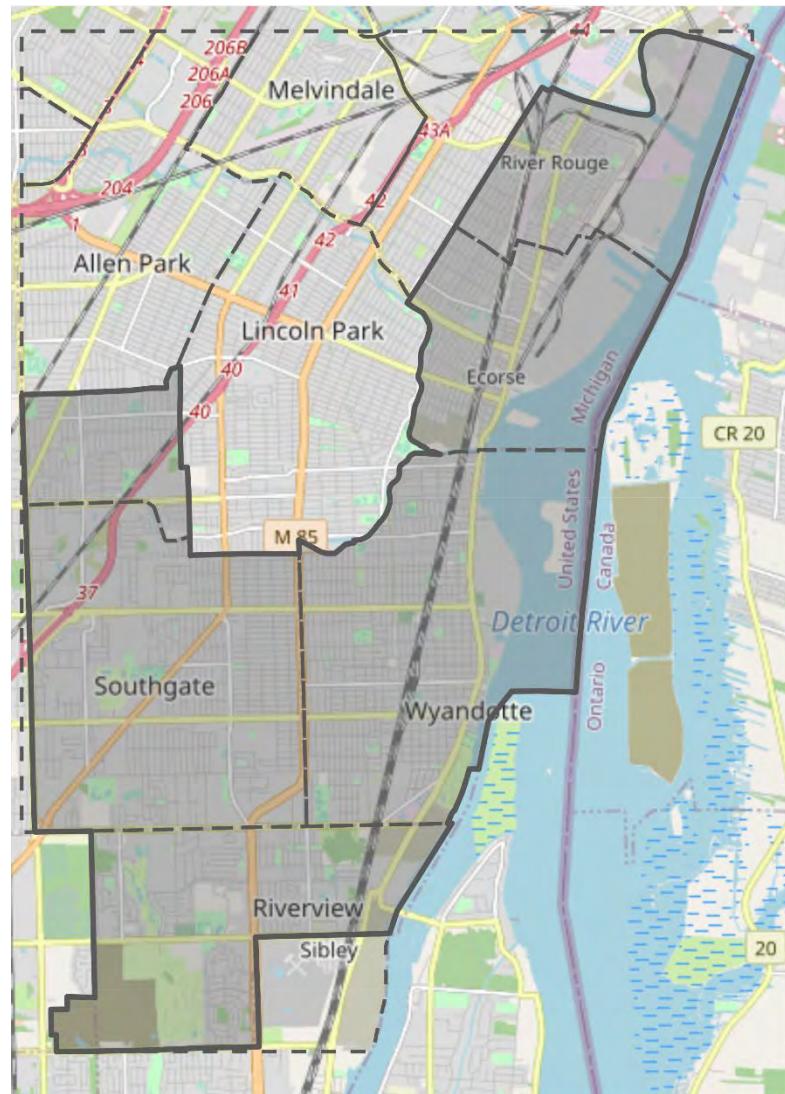
Proposed Exemplar Map, District 1
Black = 50.6%; Non-Hispanic White = 40.87%; Hispanic = 1.92%; Non-Hispanic A

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JA00431
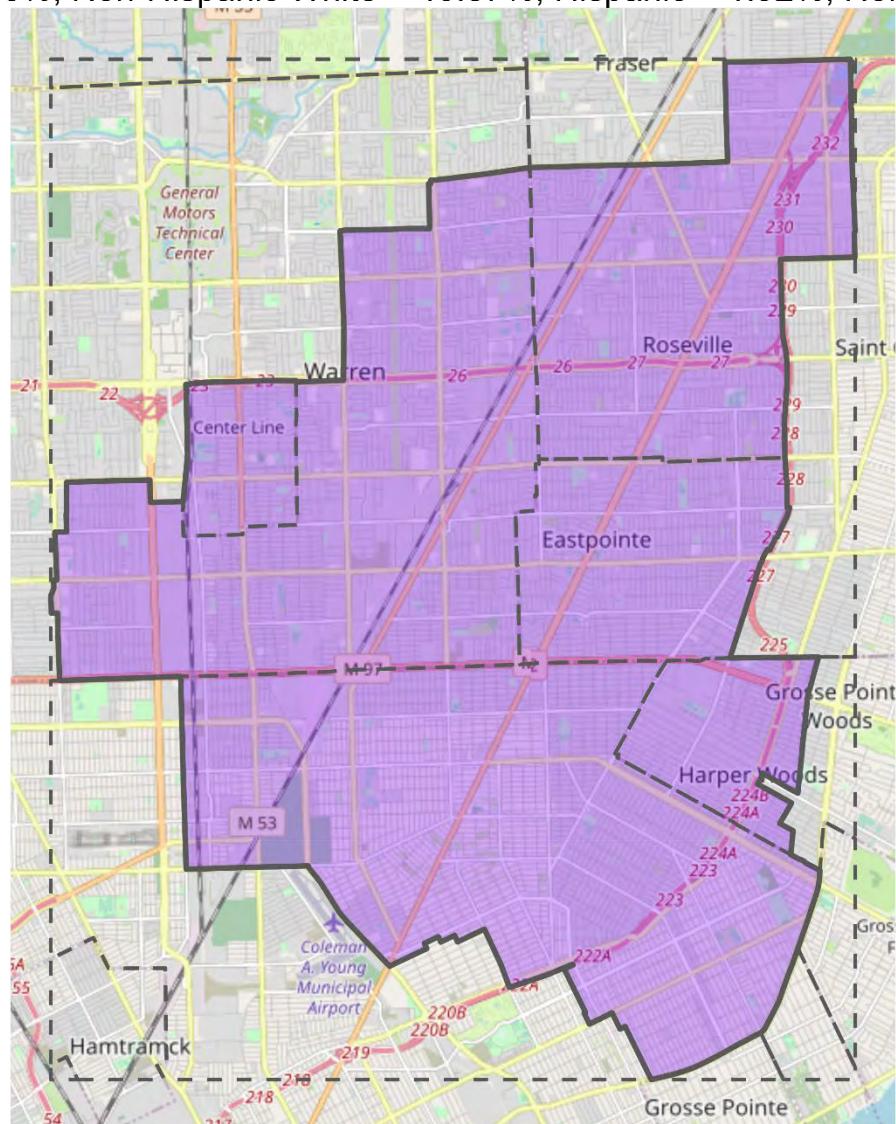
Proposed Exemplar Map, District 4
Black = 50.01%; Non-Hispanic White = 40.56%; Hispanic = 4.1%; Non-Hispanic A

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JA00432
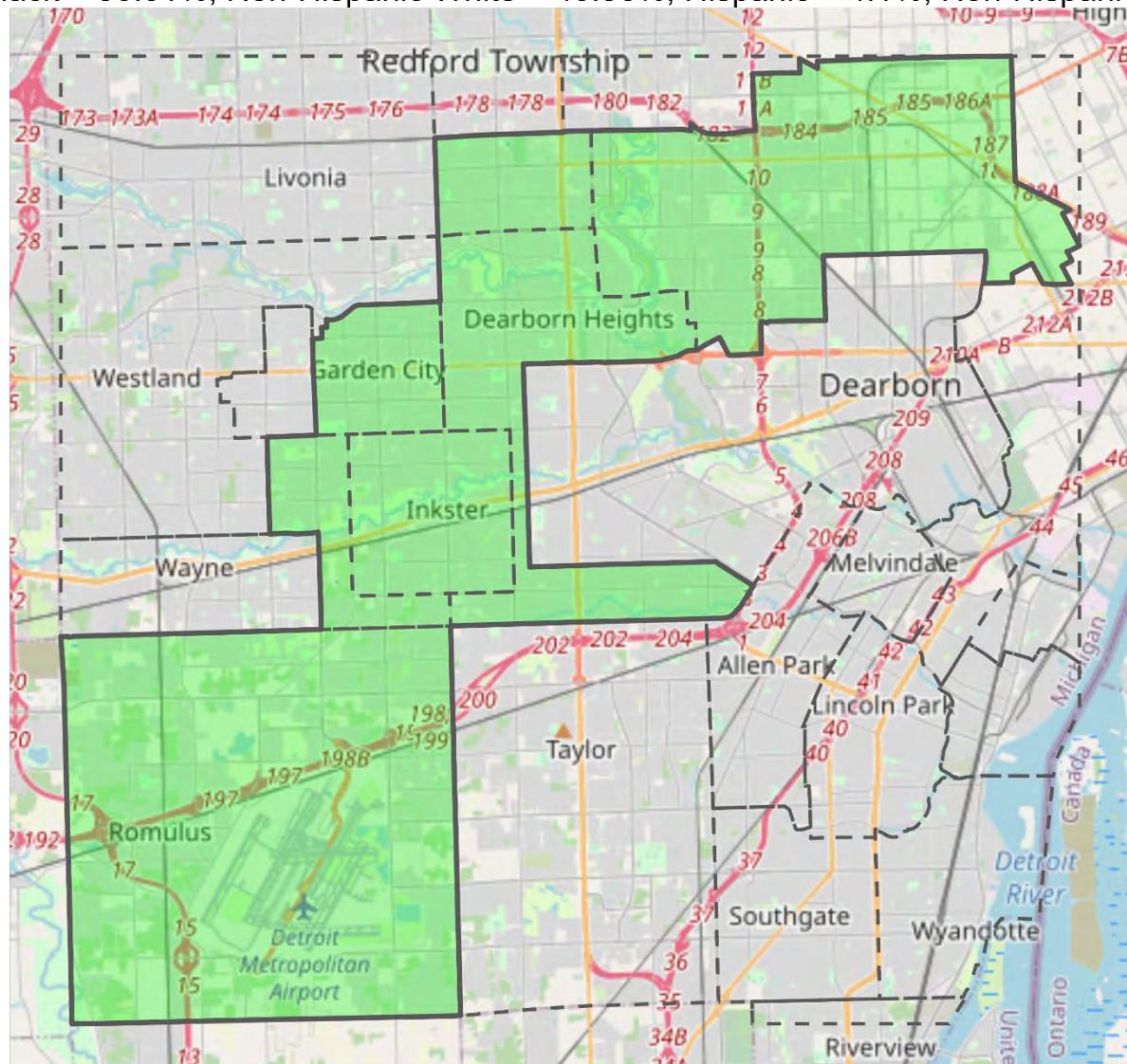
Proposed Exemplar Map, District 5
Black = 50.16%; Non-Hispanic White = 42.17%; Hispanic = 2.19%; Non-Hispanic /

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68
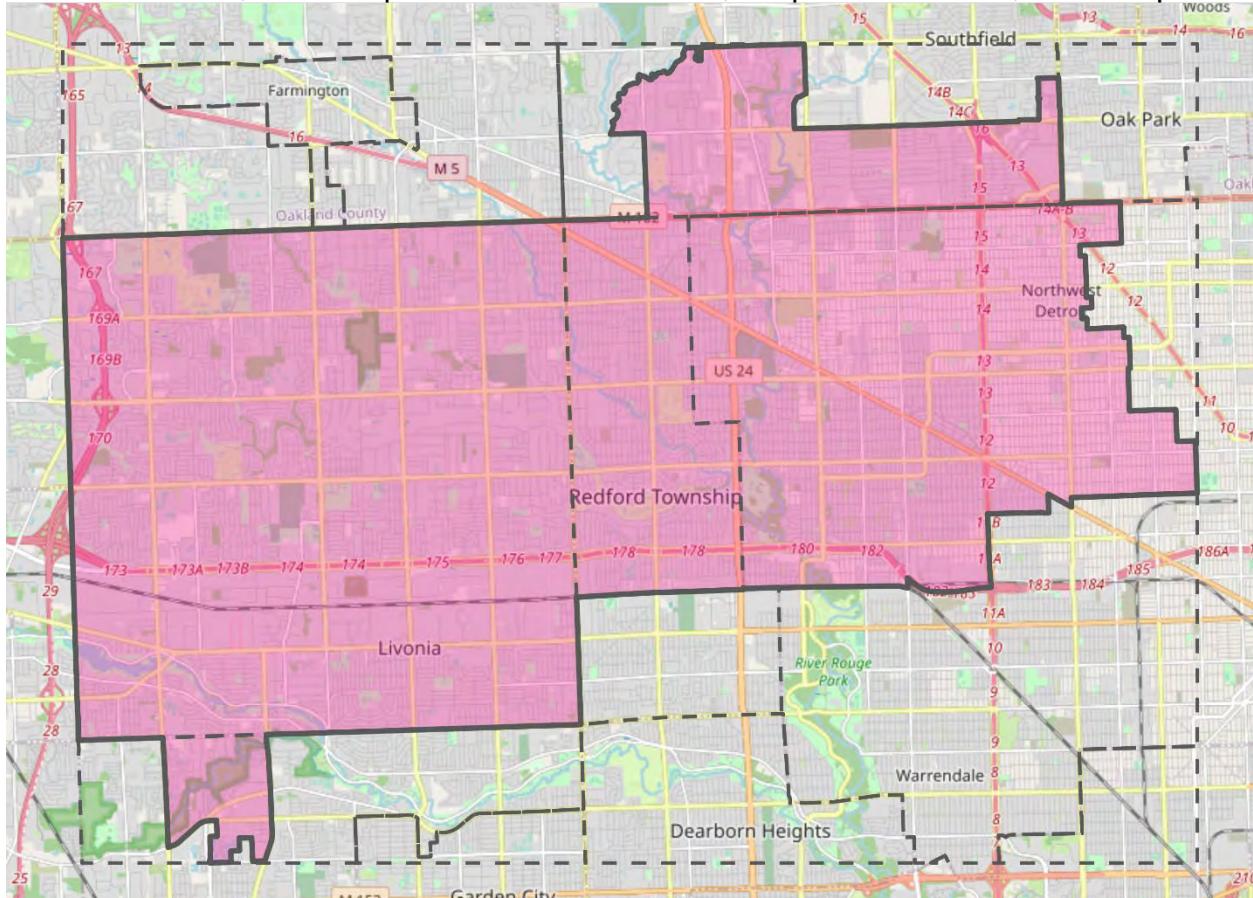
Proposed Exemplar Map, District 7
Black = 13.68%; Non-Hispanic White = 71.89%; Hispanic = 4.95%; Non-Hispanic A

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JA00434
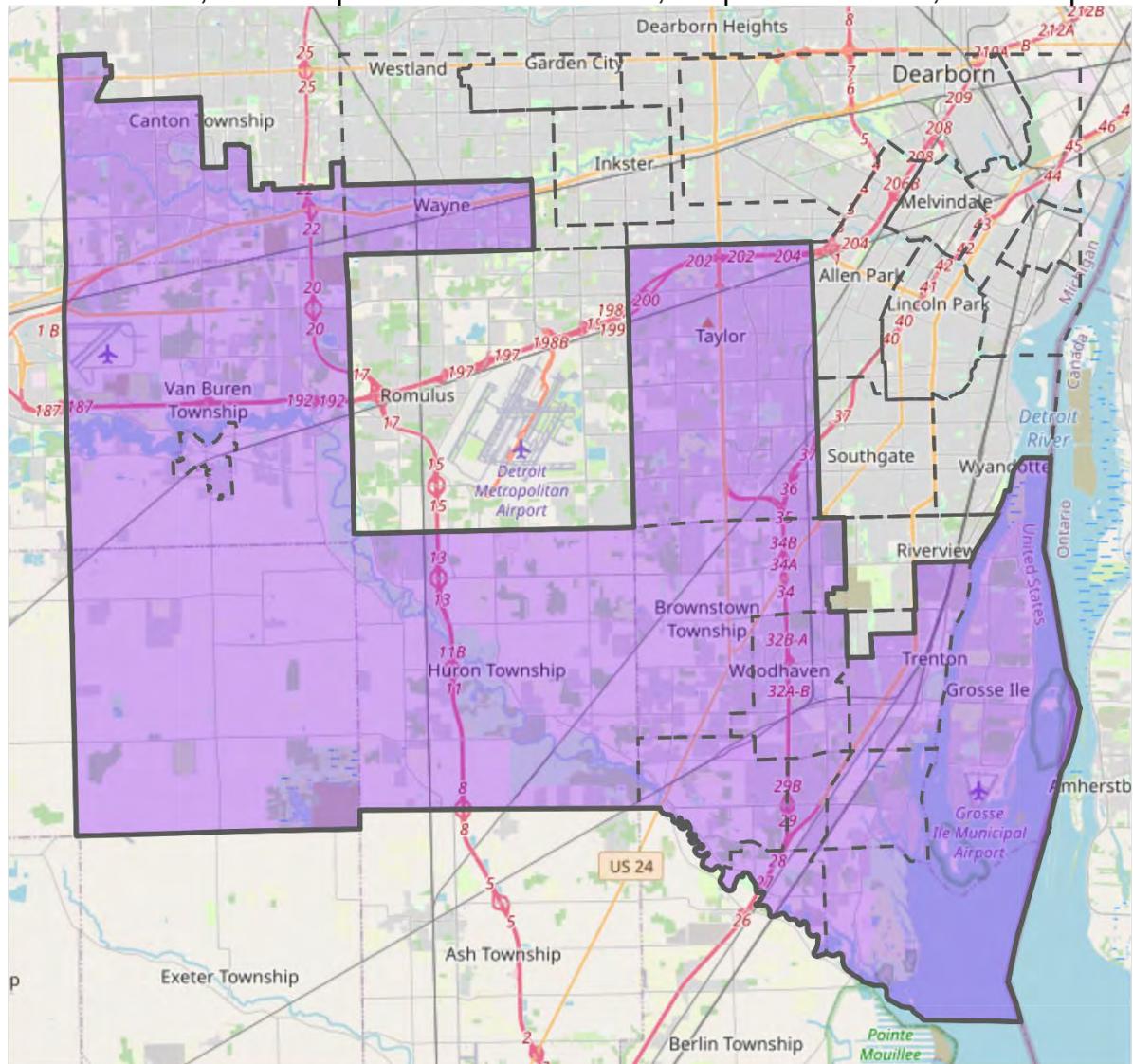
Proposed Exemplar Map, District 8
Black = 8.88%; Non-Hispanic White = 71.57%; Hispanic = 3.35%; Non-Hispanic As

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JA00435
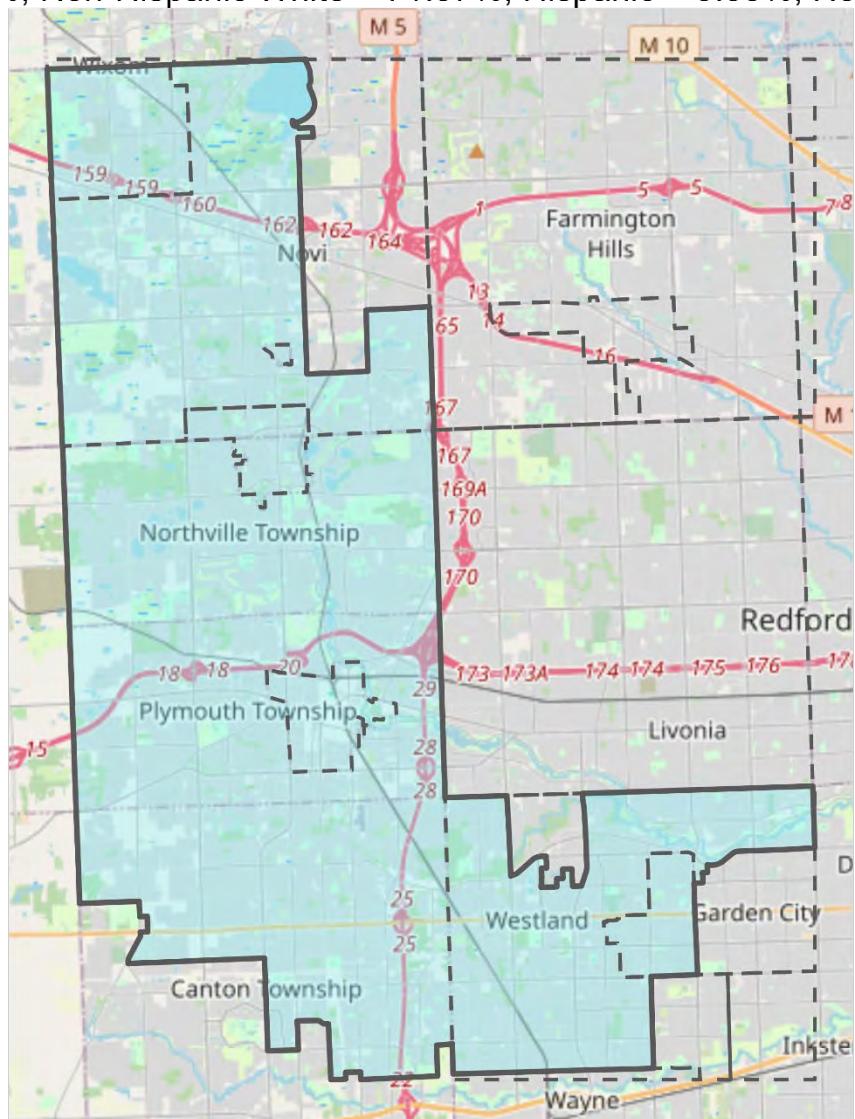
## Proposed Exemplar Map, District 12
Black = 11.3%; Non-Hispanic White = 80.23%; Hispanic = 2.36%; Non-Hispanic A

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JA00436
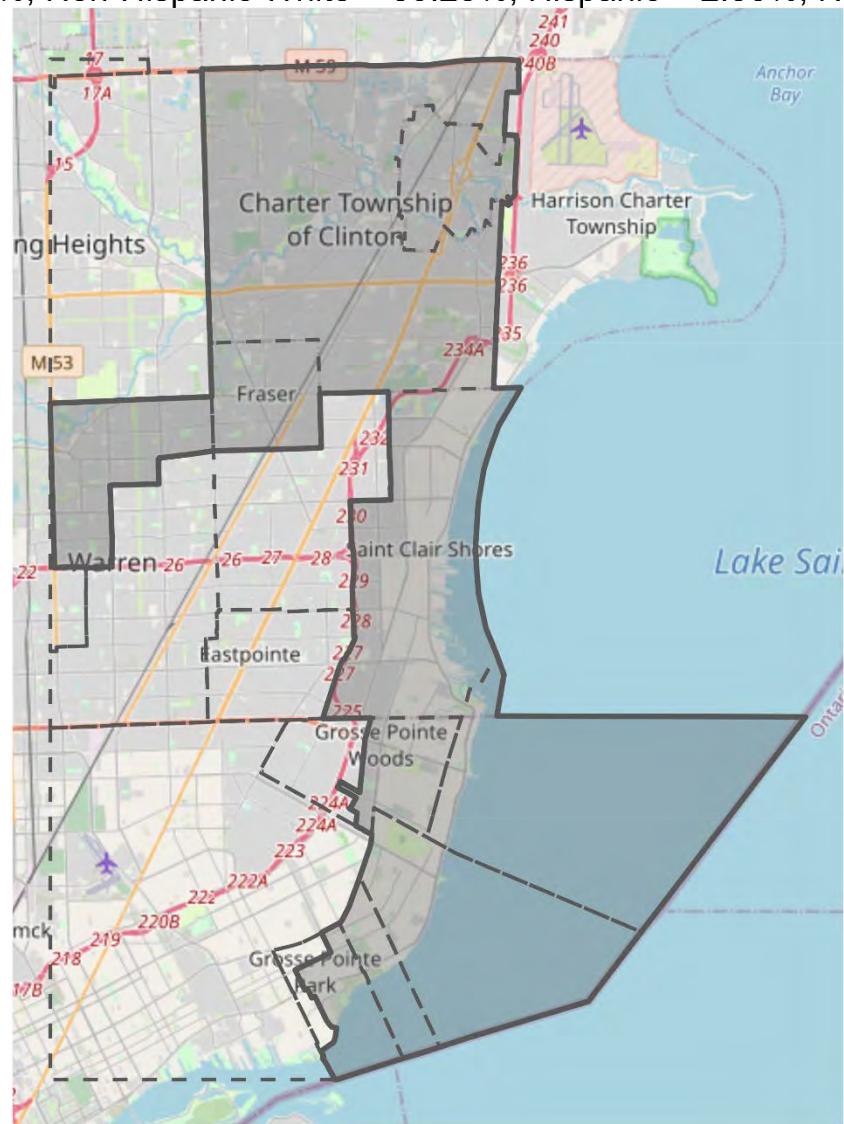
Proposed Exemplar Map, District 13
Black = 4.6%; Non-Hispanic White = 87.17%; Hispanic = 2.76%; Non-Hispanic As

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